

THE

Desert

M A G A Z I N E



OCTOBER, 1946

25 CENTS



Sitting Pretty

San Andreas canyon, near
Palm Springs, California

By WESLEY L. KROENUNG

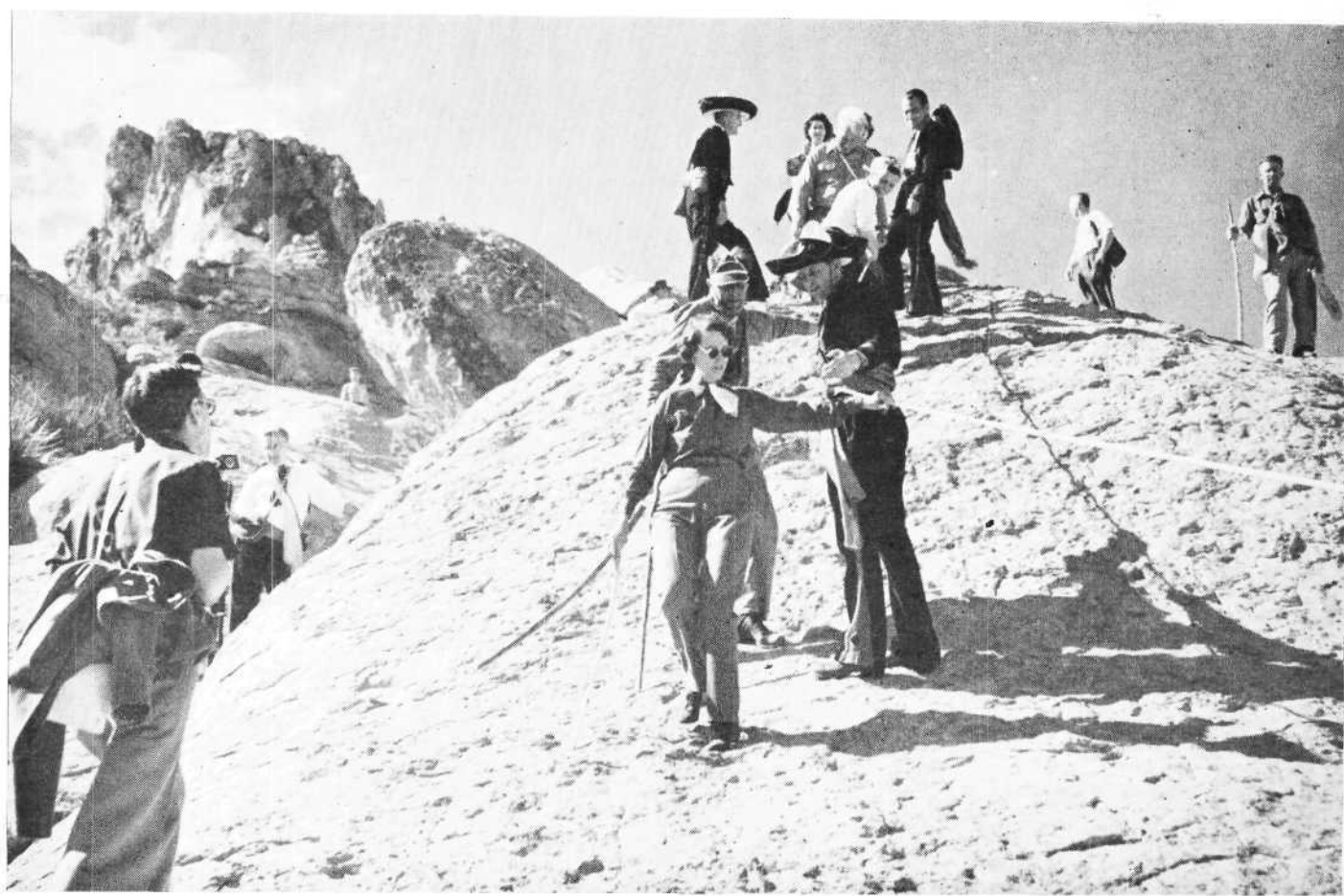
First prize winner in Desert Magazine's August contest, Desert Rock Climbing, is this print taken in San Andreas canyon, San Jacinto mountains, in August, 1940. Photographer Wesley L. Kroenung, South Pasadena, California, used a Leica camera, Summar lens, 5cm; exposure f:9 at 1/100 sec. with G filter, Supreme film; developed in DK 20.

Superstition Trek

Superstition Mountains, Arizona

By EDMOND READ

Second prize winning photo shows some of the group who made the traditional Don's Club trip into Superstition Mountains, east of Phoenix, in March, 1946, in mock search for Lost Dutchman mine. Photographer Edmond Read, Glendale, California, says, "A lot of the eastern dudes really got a kick out of this place because even though it actually wasn't steep their slippery leather soles failed to grip the slick rock and many a thrilled gasp could be heard as the party wound its way down to base camp." Taken with Speed Graphic, 1/200 sec. at f:20.



DESERT Close-Ups

• When Catherine and Dick Freeman sent in their article on camping, which is published this month, Dick said the editors probably would hear from "so-called tough guys of the desert wondering why you publish yarns by a couple of tenderfeet. Personally we think we're able to stand about as much rough stuff of the desert as these so-called tough guys if we have to, but we don't figure we have to." Those who know Catherine and Dick will testify they're no tenderfeet.

• Alfred R. Hipkoe, author of this month's field trip, lives in Winslow, Arizona, is a civil engineer, surveyor and draftsman. He was born in Kansas 56 years ago, lived in British Columbia, served in World War I, arrived in Arizona in 1920—and stayed. He's a confirmed rocknut and amateur gem cutter, whose worst offense is his packrat tendencies to fill every nook in yard and garage, thereby bringing down on his head the wrath of his wife.

• Joyce Rockwood Muench, whose latest contribution to DESERT was the story of Sunset crater, Arizona (February, 1946), is editor of *West Coast Portrait*, scheduled for fall publication by Hastings House. It is a collection of pictorial highlights of the West by America's outstanding artists and photographers. Illustrations include color plates, photos, wood engravings and lithographs.

DESERT CALENDAR

- Sep. 29-Oct. 6—New Mexico state fair, Albuquerque.
Oct. 3-5—Grand County fair, Moab, Utah.
Oct. 4—Annual fiesta, Ranchos de Taos, New Mexico.
Oct. 4-6—Navajo County fair, and Northern Arizona Cattlemen's rodeo, Holbrook.
Oct. 9-12—Eastern New Mexico state fair, Roswell.
Oct. 23-25—Arizona state aviation conference, Phoenix.
Oct. 28-30—American Institute of Mining and Engineers, Tucson.
Oct. 31—Nevada state admission day celebration, Carson City.

HUNTING SEASONS

- Arizona—Deer, Kaibab north natl. forest, Oct. 10-25. 500 permits, apply State fish and game commission, Phoenix.
California—Doves, except Imperial co., Sep. 1-Oct. 30. Imperial co., Sep. 28-Oct. 30.
Nevada—Deer, some counties, Oct. 6-20. Information, State fish and game commission, Reno.

CREED OF THE DESERT

By JUNE LEMERT PAXTON
Yucca Valley, California

The Sculptor carved the distant rocks
And the Painter, with magic flare,
Dipped His brush in brilliant hues
And splashed the colors there.



Volume 9

OCTOBER, 1946

Number 12

COVER	COWBOY AND GIRL, southern Arizona. Photo by Chuck Abbott, Tucson, Arizona.	
PHOTOGRAPHY	Prize winners in August contest	2
CLOSE-UPS	Notes on Desert features and contributors	3
CALENDAR	October events on the desert	3
POETRY	Ghost of a Dead Fir Tree, and other poems	4
PREHISTORY	Atomic Man in the Haunts of the Ancient Cave Man—By J. W. HENDRON	5
MORMONS	"This is the Place" By ELIZABETH CANNON PORTER	10
BOOKS	Arizona's National Monuments, other reviews	12
FIELD TRIP	We Found Crystals in the Hopi Buttes By ALFRED R. HIPKOE	13
DESERT QUIZ	A test of your desert knowledge	16
INDIANS	We Found the Grave of the Utah Chief By CHARLES KELLY	17
LETTERS	Comment from Desert readers	20
ART OF LIVING	Desert Refuge, by MARSHAL SOUTH	21
CAMPING	Sol! You'd Like to Camp Out? By CATHERINE and DICK FREEMAN	23
NEWS	Here and There on the Desert	27
HOBBY	Gems and Minerals	33
MINING	Current news briefs	40
CONTEST	Rules for October photographic contest	40
LAPIDARY	Amateur Gem Cutter, by LELANDE QUICK	41
INDEX	Ninth Volume index	42
COMMENT	Just Between You and Me By the Editor	46

The Desert Magazine is published monthly by the Desert Press, Inc., 636 State Street, El Centro, California. Entered as second class matter October 11, 1937, at the post office at El Centro, California, under the Act of March 3, 1879. Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1946 by the Desert Publishing Company. Permission to reproduce contents must be secured from the editor in writing.

RANDALL HENDERSON, Editor. LUCILE HARRIS, Associate Editor.
BESS STACY, Business Manager.

Unsolicited manuscripts and photographs submitted cannot be returned or acknowledged unless full return postage is enclosed. Desert Magazine assumes no responsibility for damage or loss of manuscripts or photographs although due care will be exercised. Subscribers should send notice of change of address by the first of the month preceding issue. If address is uncertain by that date, notify circulation department to hold copies.

SUBSCRIPTION RATES

One year \$3.00 Two years \$5.00
Canadian subscriptions 25c extra, foreign 50c extra.

Subscriptions to Army personnel outside U.S.A. must be mailed in conformity with P.O.D. Order No. 19687.

Address correspondence to Desert Magazine, 636 State St., El Centro, California.



DESERT CHILD

By ETHEL M. COPELAND
Porterville, California

Wind of the wastelands, bleak and cold,
Breath from the far horizon's rim,
Tell me the tales so oft you've told,
Sing me your haunting, twilight hymn.
Bring to this homesick desert child
(In the city strife, where I move, apart)
Your silent message of duneland wild—
Healing and balm to an exile's heart.

Waft me the sweetness of cedar and sage,
The poignant cry of the coyote's quest;
Chant me the shrilling sand storm's rage,
Paint me the afterglow in the West.
Ah, tell me the secrets of brooding pines,
As they sigh and whisper their ancient tale
Of golden treasure and long-lost mines,
And men's bleached bones on a ghostly trail.

Fierce burns the fever of my desire
For that savage mistress of fickle moods;
Painted wanton of ice and fire
Luring me back to her solitudes.
For I know I shall follow her siren voice
To that lonely mesa, 'neath cobalt sky;
To that Land of Enchantment, oh heart, rejoice—
Child of the desert—to live and die!

COMIN' BACK

By HENRY DAVIS
Lemon Grove, California

He stood by the side of his burro
His battered old hat in his hand.
And he answered their questions politely,
Of the lure of the desert land.
"Do you mind if we take your picture
And are you a desert rat.
Have you found much gold in your wanderings
And how can you live like that!"

They looked at his meager belongings,
The pan and the pick in his pack.
No radio, newspaper or magazine.
They piled good things in his sack.
He smiled at the generous offering
From the man and his wife, city bred.
For he knew it was their great pity
For the lonely life that he led.

And then they climbed in their auto
All nickel and shiny and black
And they waved goodbye—"We'll be seeing you,
Old Timer, we're coming back."
But he knew it was they who were lonely
Searching in vain from afar
For pinned on the blouse of the lady
Was a tiny braided Gold Star.

Ghost of a Dead Fir Tree

By JUNE LEMERT PAXTON
Yucca Valley, California

You call me dead! How can one die
Who lived a life so full and gay?
Instead, I pray the gods will try
To keep my heart aflame, always.

You call me dead! And so it seems;
But Something hidden from your ken
Will clutch and hold a thousand dreams
That I may live them o'er, again!

• • •

OLD CABIN AT THE DIGGINGS

By FAITH WHITCOMB
Glendale, Arizona

For years it has stood there,
Guarding a prospect hole.
Its furnishings are meager, bare,
But it has a patient soul.
Watching, waiting for the strike
Which lone old timer yearns,
Might come next day, while flopped ear Mike,
His faithful jack sojourns
Down some dry wash searching food,
While his master cooks his beans;
And they're smelling mighty good
As fits the old man's means.
Life is peaceful way out here.
No confusing city strife!
Nothing 'bout the wilds to fear.
Prospecting is the life!
Who can tell? Most any day
A pocket rich with gold,
Will pay off like the Glory hole
That proved so rich of old.

• • •

THE PATTERN

By HELEN L. VOGEL
Mecca, California

Seven times or more a greedy sea
Has crept across the molten desert sand.
Seven times or more the mountain's feet
Have cooled beneath a rising tide of green.

Seven times or more those shores did yield
To life come, not anew, but yet again,
In form a little different than the first
But bettered through existence of the past.

Seven times before and now this time
That seems to hold no mem'ry of before
But breathing of primordial design
That credits no beginning and no end.

Part and one with God's great living force,
The desert's face is bright with timelessness,
For seen or not its life has never ceased
And only waits to be recalled again.

• • •

DESERT SANCTUARY

By ADDISON N. CLARK
Oakland, California

When snow and ice beset less-favored lands
And Boreas blusters through the northern skies,
Happy is he whose winter pathway lies
Across our warm southwestern desert sands.
There's peace out where the gaunt saguaro
stands;
Where rugged, serried peaks to heaven rise
In silent majesty that deifies
Each crag and canyon sculptured by God's
hands.

Here can a man forget the sordid things
That bind his body to this earthly clod;
Here's freedom from the little barbs and stings
That line the paths where human feet have trod;
Here can his soul, untrammelled, lift its wings
And soar to meet his Master and his God.



Ruins of the big community house Puwige, which means "pueblo where the Indian women scraped the bottoms of the pottery vessels clean." There were 242 rooms, and the structure probably was three stories high. Photo by George Thompson.

Atomic Man in the Haunts of the Ancient Cave Man

The passing of the ancient Indian culture and the coming of the white man's civilization may be told in terms of sound—the sounds that have echoed through Frijoles canyon in New Mexico. Once this remote spot was occupied by prehistoric tribesmen who raised corn and squash and beans, and asked nothing more of their gods than bountiful crops. The silence of the Frijoles was broken in those days only by the chant of Indian singers, the rumble of their drums, and the laughter of children at play. But the ancients long since have departed, and only the

smoke-blackened caves and the crumbling stone walls of their dwellings remain. New sounds have come to the Frijoles—the shriek of sirens and of mighty blasts that thunder against the cliff walls and bring terror even to the wildlife. For Los Alamos is only a few miles away, where Atomic Man has been perfecting his fearful weapons of destruction. And visitors to these ancient ruins well may pause and wonder which, after all—the chant of primitive singers or the crash of deadly explosives—is the sound that symbolizes the best in human nature.

By J. W. HENDRON

A BROWN-SKINNED prehistoric Indian, clad in breech clout, leisurely roamed over New Mexico's high mesas and through her forests of stolid pines carrying a stout oak bow with sharp pointed arrow. That was over 400 years ago. Little did he dream that on these very mesa tops and in these virgin forests a new era of destruction would some day be born. Here, in his moccasined feet, he tracked the deer through cottony snow and followed the calls of the wild turkey to kill it and pluck its feathers. These mesas and

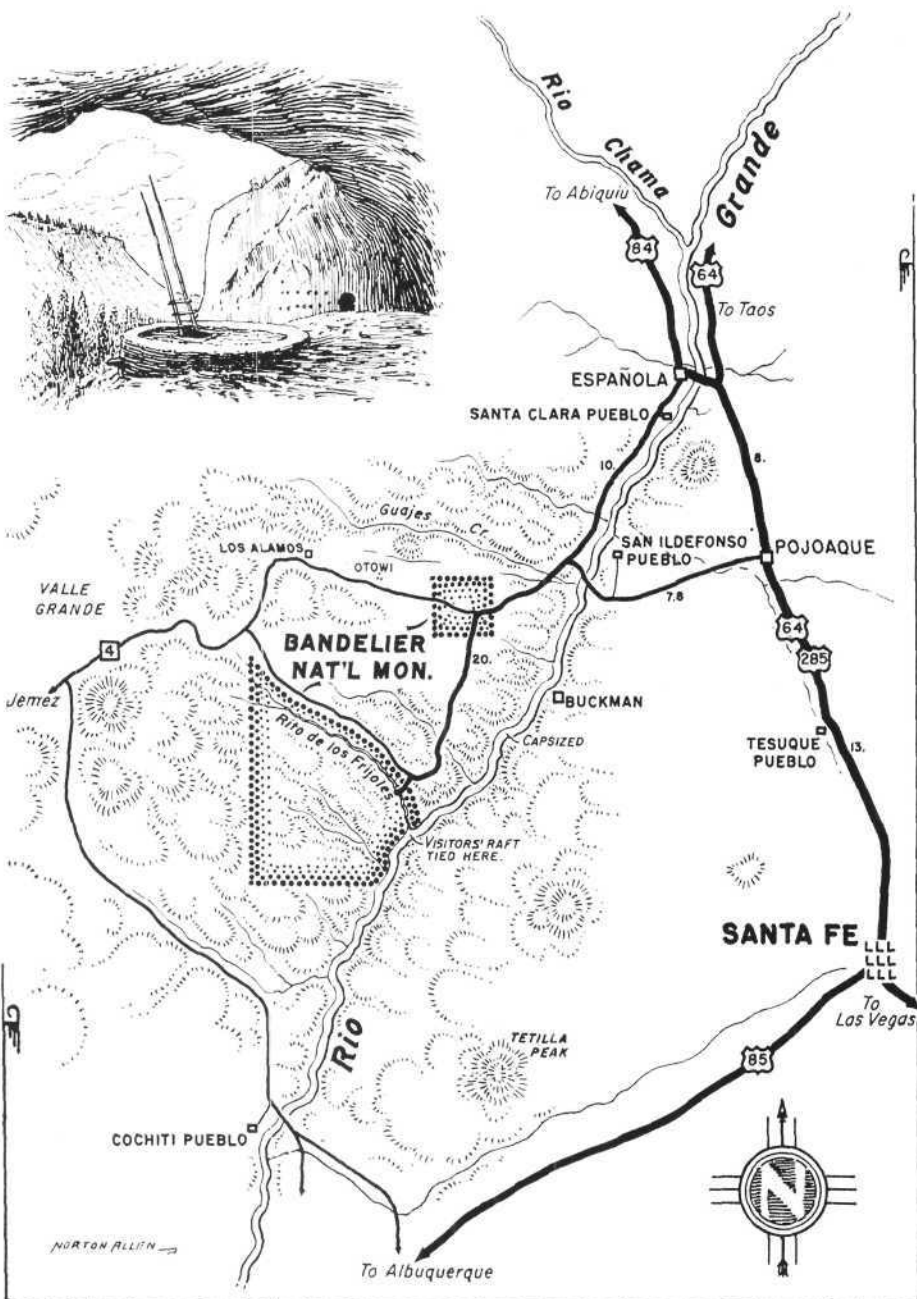
forests were his. They were his home and hunting ground.

His family dwelt in smoke-blackened caves chiseled out with crude stone tools from the base of steep canyon walls, and in stone huts erected in front of the cave rooms. Or, they may have dwelt on the floor of a deep canyon in a terraced community apartment house, with many others of his clan. He raised beans, corn, squash and pumpkins, for he was a farmer. He netted trout from a mountain stream while his woman, garbed in a drab cotton manta,

knelt and ground corn on a crude metate. Old men chanted as she kept time to the weird but rhythmic beat of their drums.

Today Cave Man is long gone. Atomic Man has taken over many of his mesas, his forests and canyons. Atomic Man now visits, ponders and lingers at the fast decaying remains of the homes in which this prehistoric man lived.

If a raven were to fly toward the mountains to the west of, and a little north of the present city of Santa Fé, I'd say it was heading toward the valley of the ancient



cliff dweller, or the *Rito de Los Frijoles* (the little river of the beans). It is so-called because the sons of New Mexico's Spanish conquerors and settlers cultivated pinto beans (*frijoles*) in the fertile valley long after it had been abandoned by the Indians. And if the same raven flew from Frijoles valley toward the northwest, the distance to Los Alamos (the cottonwoods), the cradle of the atomic bomb, would be ten miles. Here, in this Valley of the Beans lived the Pueblo Indian for five centuries.

Frijoles canyon today is an integral part of Bandelier national monument, a forested area of 27,000 acres under the administration of our national park service. This unique valley has been visited by people from the four corners of the globe who have been fascinated by the colorful archeologic and historic background of New

Mexico. In recent years a large percentage of the visitors have been members of Los Alamos bomb project. Hundreds of them have frequented this delightful spot. Some came afoot, others on bicycles, on motorcycles, on horseback or in automobiles. Every conceivable mode of conveyance was theirs. Gasoline on "the hill," as Los Alamos was called, was rationed as elsewhere. Atomic Man enjoyed no special privileges. Towns were too far away for frequent visits. Frijoles canyon was most conveniently located—just 17 miles distant by road.

The visitors from "the hill" were very reluctant at first to reveal their identity. One fellow even asked, "Is that necessary?" We only asked his name for registration purposes which is customary in all national parks and monuments. I registered him as "Mr. X." Out-of-state license

plates on their automobiles gave them away for we knew they had not come from distant points on those worn-out tires. But soon their reluctance gave way to friendliness and we came to know many of them by name. They were most secretive about some things—they never discussed the type of work they were doing. They talked about their homes and how they were enjoying New Mexico. Some attempted to learn the Spanish language. A great many were especially interested in Indians, both modern and prehistoric, and some talked for hours about them. They were a jovial lot.

Late one winter night there came a knock at our front door. I opened it and there stood three half-frozen young men from "the hill." Their pant legs were frozen stiff and they were shivering from the bitter cold of the wintry night. So, we invited them inside to thaw out. I put another log on the fire. My wife and I were amazed when they told us they had arrived in a boat. Who ever heard of traveling through the mountains in a boat? They told their story while we warmed them with hot coffee.

For the lack of something more interesting to do, this trio of young scientists had made a raft during 24 hours of their spare time. It was a hurriedly thrown-together affair. One Saturday afternoon in January they launched their craft in the Rio Grande at Otowi junction 20 miles above the mouth of Frijoles. They could not have chosen a more disagreeable time of the year. Few people ever go down the Rio Grande in a boat, let alone on a raft. But, with their packs full of provisions they took off in the hope that the swift current would carry them 30 miles downstream and away from the mountains in a few hours. There, they would make their way to the highway, thumb a ride to Santa Fe and catch a bus back to Los Alamos. But it did not work out that way.

Night overtook them. It began to sleet and snow. The raft hung on sandbars and they pushed it off time after time. They were out all night. They capsized ten miles downstream and were soaked. After raising their flimsy craft they boarded again and pushed on through the darkness. Reaching Frijoles they abandoned their craft and started walking for they knew they could obtain shelter at headquarters. They left their raft where the Rito empties into the Rio Grande and made for the steep trail up the canyon. It took them two hours to walk the two and a half icy miles in near zero weather.

We put them up for the night and went to sleep chuckling about the three men on a raft. We will always remember Dave, Hammy and Slats. The last time I saw them they had given up the idea of boating. They were planning to buy a burro and pack over the back country. The lands

of the prehistoric cave man were more enticing to them than his rivers.

We residents of Frijoles canyon were the closest inhabitants to Atomic Man's workshop. Although we knew little about what they were doing, we sensed the importance of their project. For two years before Nagasaki and Hiroshima, we would hear sirens scream. In a few seconds there would be a terrific explosion. These frightful blasts occurred from three to 20 times a day. Every time when an extra loud blast occurred it took my wife an hour to clean up the dust and dirt shaken from our Spanish-style ceilings of wooden beams and cross-poles. China cups in our kitchen cabinet swung back and forth on their hooks while Atomic Man tried his weapons. Even the tassel-eared squirrels of the forest huddled in fright. They stopped in their tracks—tense, waiting for what was to come next. Deer stopped short, picked up their ears for a brief moment, then went on about their feeding. Windows rattled and thick house walls of stone shook. At night rays from powerful searchlights roamed and searched the heavens. Then there were silent blasts without warnings and the entire countryside lit up as if a gigantic flash bulb had been touched off. The steep walls of a dozen canyons trembled as clouds of white smoke boiled high into the air and suddenly disappeared as if by magic. For a lightning flash of a moment the fast decaying homes of Cave Man trembled while Atomic Man experimented with death and destruction.

While Atomic Man made bombs, we were attempting to solve some of the problems which had confronted the prehistoric Pueblo Indian. It is generally agreed that the prehistoric period ended and the historic period began when the Spanish conquerors first reached the Rio Grande valley in 1540.

We were excavating—digging out rooms which had been erected hundreds of years ago, uncovering walls, sacking hundreds of decorated pottery fragments, and food bones from the deer, turkey, fox and rabbit on which prehistoric man had gnawed. There were charred corn kernels dropped by the primitive Indian and innumerable pigmy cobs which had been thrown away. His sharp stone axes, fist hammers and war points of basalt and obsidian were present as evidence that Cave Man also had developed weapons for the destruction of his enemies.

Atomic Man was interested—keenly interested. On several occasions we were propositioned to begin an excavation and allow interested members of the bomb group to participate on Sundays and off-days. And they would work free of charge. Atomic Man wanted to dig in the dirt; dig up the remains of prehistoric

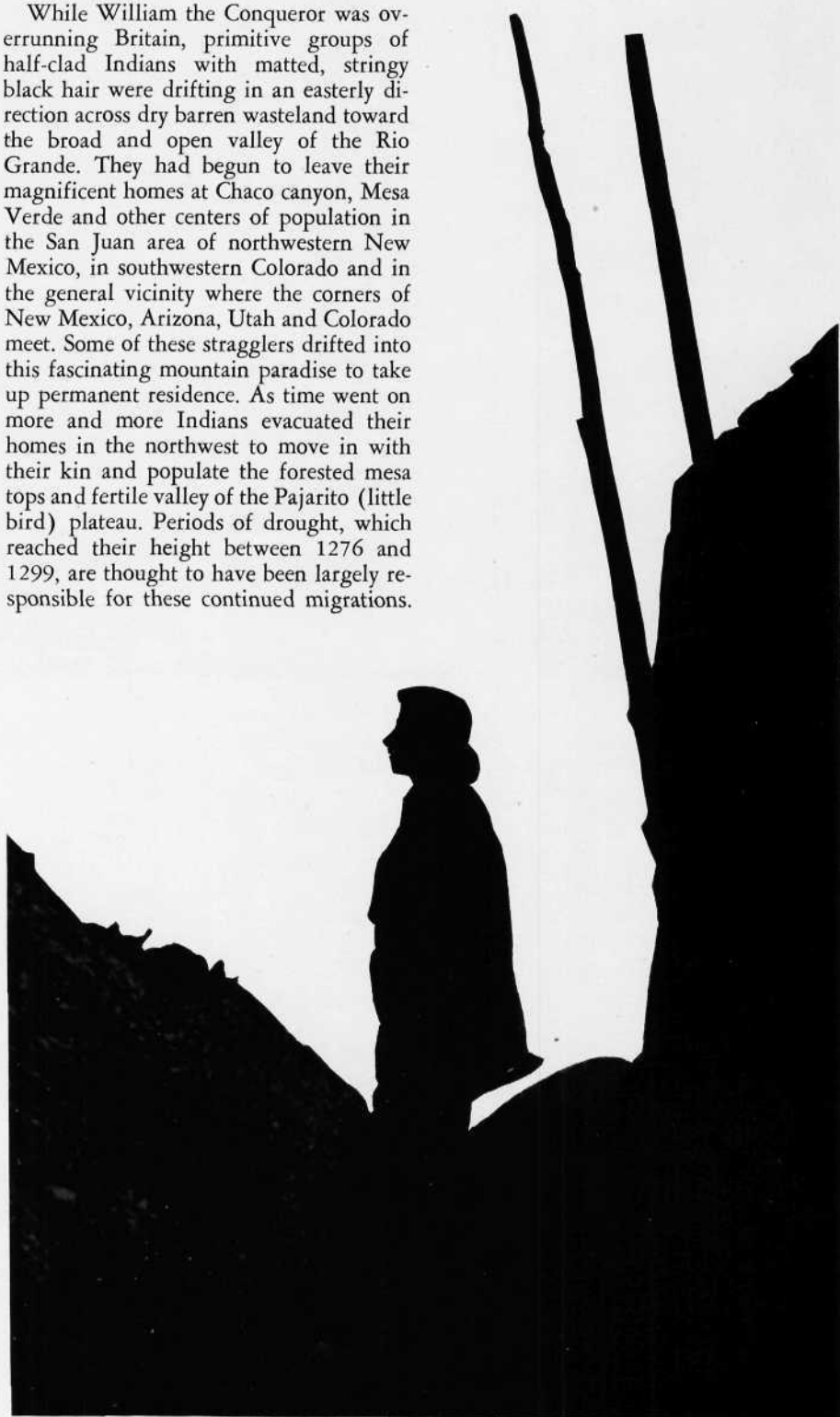
man. He wanted to help turn the hands on the clock back to the Neolithic Age when man in America had only crude bone, stone and wood implements with which to work.

The Frijoles is a land clustered with the works of primitive man. Bandelier national monument has one of the most interesting and colorful prehistories in all of the great Southwest.

While William the Conqueror was overrunning Britain, primitive groups of half-clad Indians with matted, stringy black hair were drifting in an easterly direction across dry barren wasteland toward the broad and open valley of the Rio Grande. They had begun to leave their magnificent homes at Chaco canyon, Mesa Verde and other centers of population in the San Juan area of northwestern New Mexico, in southwestern Colorado and in the general vicinity where the corners of New Mexico, Arizona, Utah and Colorado meet. Some of these stragglers drifted into this fascinating mountain paradise to take up permanent residence. As time went on more and more Indians evacuated their homes in the northwest to move in with their kin and populate the forested mesa tops and fertile valley of the Pajarito (little bird) plateau. Periods of drought, which reached their height between 1276 and 1299, are thought to have been largely responsible for these continued migrations.

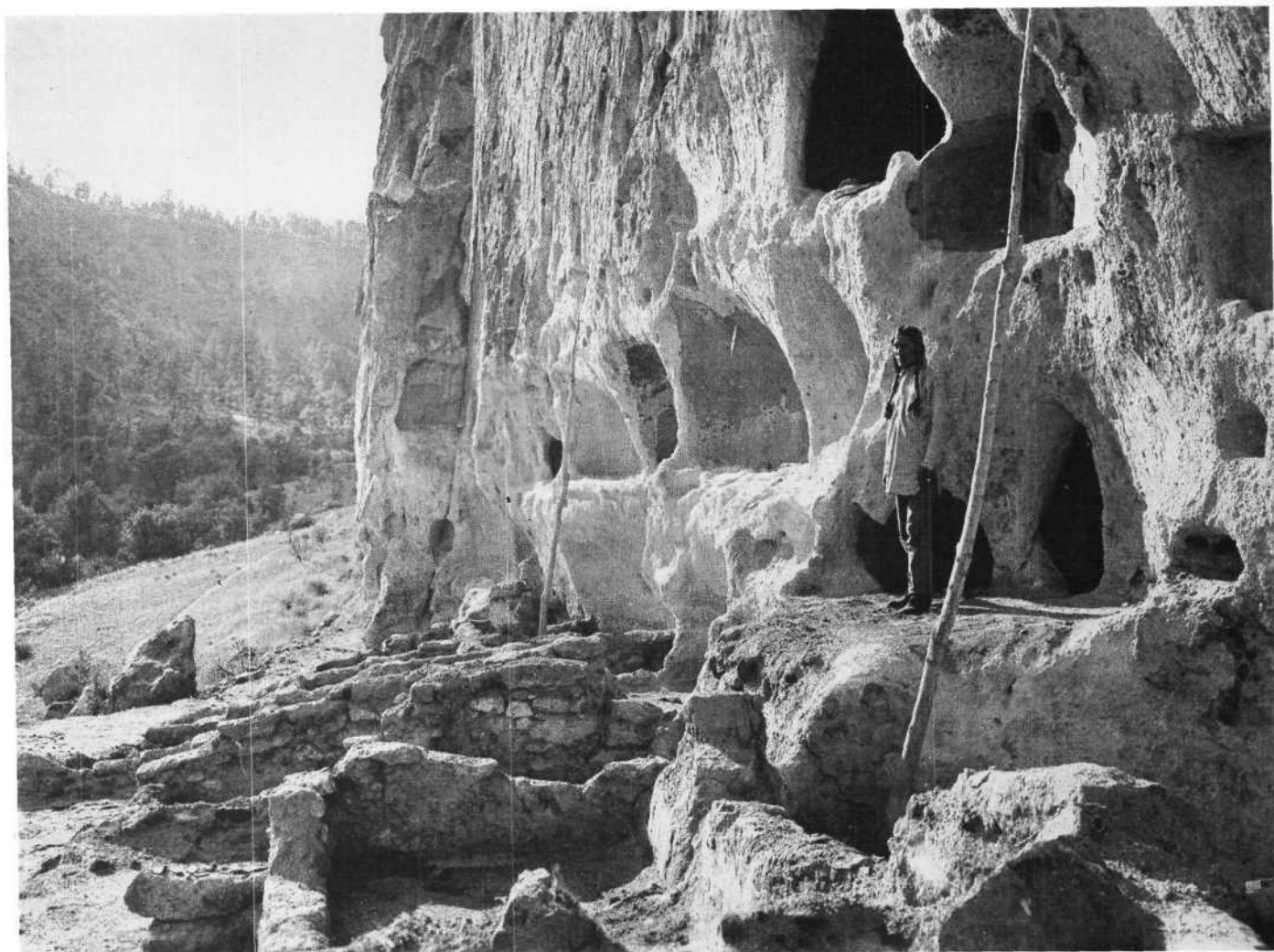
Every sheer canyon wall on the Pajarito plateau eventually became pock-marked with shallow cave openings. Small huts built of stone laid in mud mortar were built and terraced to two and three stories high at the base of the cliffs, and large communal apartment houses were erected on canyon floors and on high mesa tops.

Frijoles canyon soon became one of the



An atomic worker views the valley from near the entrance to Ceremonial cave. The reconstructed ladder provides entrance to an ancient kiva.

Photo by George Thompson.



View of Long House—rooms extending 700 feet along the base of a sheer cliff. Wall is of volcanic tuff and is slowly eroding away. The Indian is Julian Martinez, husband of the famous potter, Maria. He passed away a few years ago. Photo courtesy of the Museum of New Mexico.

most popular dwelling places on the Pajarito plateau. Its little creek, El Rito de Los Frijoles, had cut the gorge to a depth of 600 feet as its clear waters sought their way to the Rio Grande for thousands of years. It ran water year in and year out—this canyon was the most coveted spot of all.

Within the course of a little more than 100 years these primitive people hewed more than 300 caves from the soft cliff wall of volcanic ash or tuff. They built three times as many tiny houses of cut stone and mud with roofs of vigas, brush, grass and mud at its base in front of the caves for a linear distance of two miles. It has been estimated that dwellings were erected to house 4000 Indians, that is, if they all had been occupied at the same time. Actually, no more than a few hundred lived here at any one time.

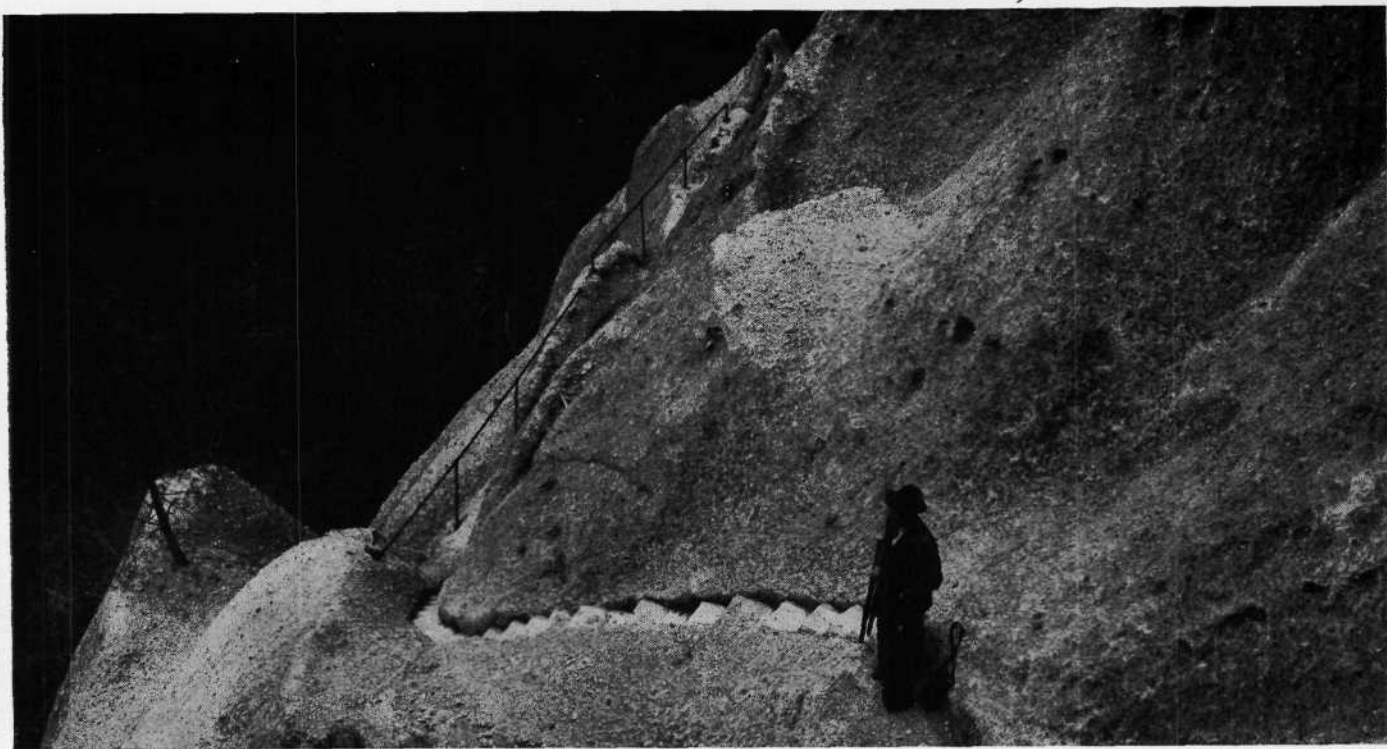
Ladders built of straight poles and rungs lashed down tight with split willow branches tied with rawhide made access to the roof-tops easy. These movable ladders

could be pulled up during times of danger. The beaten ones were destined eventually to establish themselves on the banks of the Rio Grande where we find their descendants living today.

As the population increased and as influx from northern villages continued, the pueblos were terraced to two and three stories. Some were circular and others were in the form of parallelograms. The rooms of the circular houses were built around an inner court or central gathering place for dances and ceremonies. The most famous dwelling, *Puwige* (house where the women scraped the bottoms of the pottery vessels clean), is known the world over. It sometimes is called Tyuonyi (pronounced Q-own-yee), "meeting place or place of treaty." But Tyuonyi really was the name applied to the entire canyon because Indians met and counceled here long years ago. Puwige is the only one of the five houses which so far has been excavated. It was enjoying the peak of its occupation at about the same time Coronado was leading

his little group of Spanish conquerors up the banks of the Rio Grande in 1540. At that time it likely was composed of nearly 500 rooms terraced to three stories around its large circular plaza. The ground floor rooms alone numbered more than 250.

The populace must have feared aggression by other groups, for its crafty designers and occupants devised an ingenious method of entrance. A long narrow passageway was cut from the outside to the inside through the east side of the huge circular band of rooms. And quite possibly, the passage was covered over with poles and brush. Sentries stood guard day and night. Posts of sturdy pines, cut with crude stone axes, and heavy flat stones of black basalt were bedded edgewise in the dirt floor at intervals as obstructions to prevent the entrance of hostile attacking groups. During peace times ladders leaned against the stone walls of rooms, but during times of danger they were drawn from the ground floor to roof tops. People living in the cliff houses above drew up their lad-



*Steps to Ceremonial cave have been reconstructed by the National Park service.
Photo by George Thompson.*

ders too and attackers then were unable to enter the smoky houses and caves and rob the occupants of precious stores of corn and beans.

One small family group preferred to live in an extensive cave some distance up the canyon from the communal dwellings. It is known as the "Ceremonial Cave" possibly because of its inaccessibility. It is 150 feet above the canyon floor. Here, it is thought, these primitive Indians hauled their building materials up over crude steps and handholds chiseled from the soft rock. They built a two-storied pueblo containing more than 20 rooms around the back of the cave and a small underground ceremonial chamber or kiva to the front. Today, the remains of these ruins can be seen by the visitors who feel equal to climbing 90 feet of ladders up the side of the sheer cliff.

A time came when Indians were forced to leave these mountain homes and move away to the hot, sandy banks of the Rio Grande. The cause might have been disease or pestilence. Some students invariably bring up the fierce Navajo who lived across the mountains to the west. But more than likely the cause was drought. Drought always has been a most serious problem among Southwestern Indians. Mountain streams dried up and the gods ceased to show favor to these people, and their corn and bean fields dried up. By the close of the 16th century the Pajarito plateau must have been a deserted land and the spectacular homes at Frijoles canyon were falling into ruin while the remnants of their

builders and occupants were busy reestablishing themselves in the Rio Grande valley where water was ever flowing.

Quite recent archeological investigation has shown that some of the cliff homes at Frijoles likely were rebuilt and occupied close to the time of the Pueblo rebellion of 1680. Indians had become weary of the tyranny of their Spanish conquerors and formed their first confederacy of tribes for the great task of driving the Spanish from New Mexico. But it was in vain. The white man returned a little more than a decade later in greater numbers than before and the Pueblo Indian again was forced to become a vassal of Spain.

Details of this late occupation of Frijoles are not quite clear but some of the artifacts which we found strongly suggest that these people themselves had come in contact with the Spanish. By some means they had come to possess items of manufacture not found in prehistoric ruins. Metal was not known to Southwestern Indians before the time of the Spanish Conquest and we recovered a few small rusted pieces. One fragment of woolen cloth added more weight to our evidence, for the Spaniards were the ones who introduced wool to the Indians. There was a small piece of imported wood which had been carved with a sharp steel blade. And we knew Indians could not carve like this with obsidian knives. Buckskin moccasins in a good state of preservation also were found but these are quite common at prehistoric ruins. Fragments of pottery with

multi-colored designs of late manufacture—all treasures, prove a quite late occupation. But this occupation was not for long.

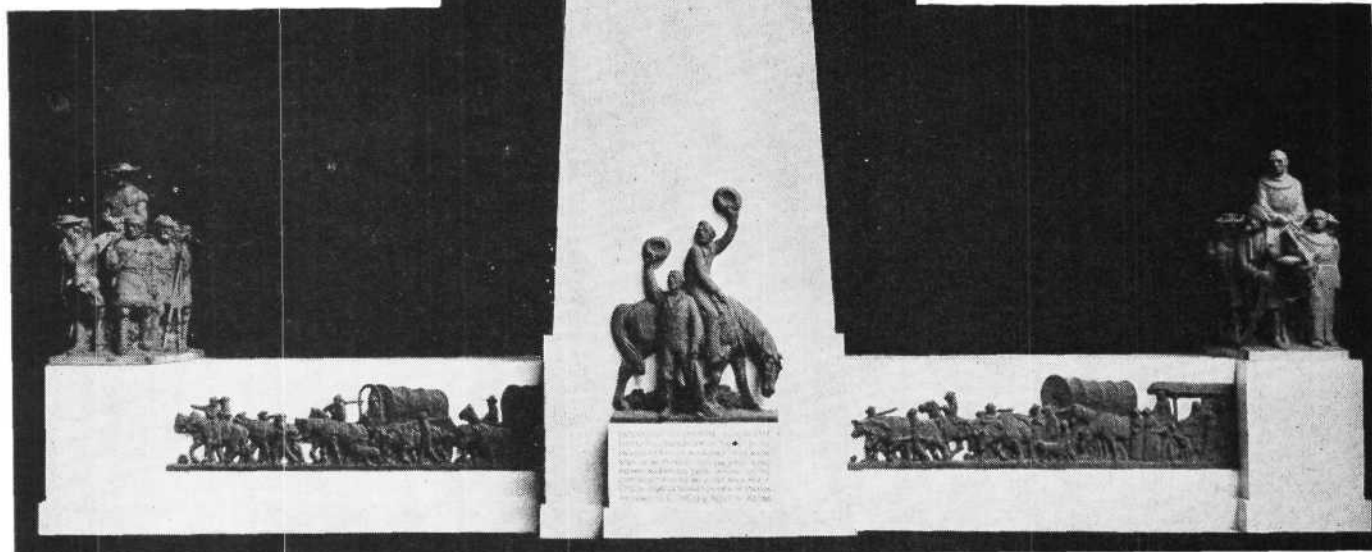
These people had sneaked back to the homes of their ancestors and had settled high in the cliffs and rebuilt century-old houses into new ones possibly as a rendezvous away from Spanish soldiers with fire arms and lances, devout padres and determined colonists. But they soon returned to their mud-walled pueblos on the low banks of the Rio Grande.

And there we find them today—descendants of cliff dwellers; descendants of the constructors of communal apartment houses terraced high in the air. Today their pueblos—San Ildefonso, Cochiti, Santo Domingo—are low and squatty since there has been no need within recent years for protection from enemies. Old men from the pueblos still trudge back up to high timbered country—the mesas and the canyons—to the homes of their ancestors. They go for religious reasons and build shrines here and there, burn a ceremonial fire, make an offering or hide a prayer plume in some secluded spot—deep in prehistoric land.

The lovely Frijoles canyon boasts of one of the most spectacular series of Indian cliff dwellings in America. Atomic Man has marveled at their primitiveness; he has penetrated the deep canyons and scoured the high forested mesa tops for remains of ancient life but most of all he likes Frijoles. It is peaceful. It is quiet. It is majestic.

Monument commemorating the centennial of the arrival of Brigham Young and the Mormon pioneers in Salt Lake valley.

"This is the Place"



By ELIZABETH CANNON PORTER

BRIGHAM Young raised himself upon his elbow, gazed upon the Salt Lake valley which lay like a panorama before him, and exclaimed: "It is enough. This is the right place. Drive on."

Perhaps the leader, lying ill with mountain fever in Wilford Woodruff's carriage, looked at the Oquirrh mountains to the west, glimpsed the shimmering surface of the Great Salt lake and had a vision of the beautiful Salt Lake City of today with its fine residences and tree lined streets. Anyway he was glad the 1000-mile trek in quest of a new home where the Mormons could enjoy religious freedom was behind them.

Only the three women of the party saw the desolation of the scene, for it is reported that they wept. Besides these, this van of the migration of 1847 consisted of 143 men and 2 children. At first it had been planned to have the scouting party an all male, youthful organization, but the wife of Lorenzo D. Young was ill and it was thought that the mountain trip would be good for her health. She brought her children, so the wives of the two leaders were included.

No country ever is settled until the women and children come. The main body of the church, under the direction of John Taylor and Parley P. Pratt, followed. They brought their flocks, herds and household goods.

Appropriately commemorating the time and place, a monument is being erected at this historic spot at the mouth of Emigration canyon, east of Salt Lake City. It will be finished for the celebration of July 24, 1947, marking a century since the pioneers entered the valley. Beautifully landscaped, it is set like a jewel in the midst of a 570-acre mountain park.

Backed by a group of prominent citizens of Utah representing all creeds and denominations, the project has been under way for the past decade. The Hon. George Albert Smith, president of the Church of Jesus Christ of Latter-day Saints, is chairman. John D. Giles is executive secretary-treasurer. The cost will be a quarter of a million dollars; one half raised by popular subscription, the other contributed by the state.

The sculptor, Mahonri M. Young, grandson of the Mormon leader, has incorporated the different groups who contributed to pre-pioneer history of the Bee Hive state.

Surmounting the monument of Utah granite are the three bronze figures of the Latter-day Saint leaders who proclaimed "This is the Place." Brigham Young, builder and colonizer, was to the under-privileged Europeans and the mob-driven American Saints the mouthpiece of the Lord. Sturdy and stalwart Heber C. Kimball was his first counselor. The carriage driver, Apostle Wilford Woodruff, was to live to become the fourth president of the Church.

Below these, at the front are the figures of Orson Pratt and Erastus Snow, the former a great astronomer, the latter to become a colonizer of Utah's Dixie. With one horse between them they entered the valley as advance scouts on July 21, 1847. Snow, on the horse, lost his coat. While he turned back to retrieve it his companion continued on foot to the present Temple site.

The horsemen shown on the two sides of the main monument are a group who were led into the valley by these two explorers the following day. George A. Smith had brought 25 pounds of flour across the plains which he doled out to the sick a cupful at a time while he himself subsisted on buffalo meat; Orrin Porter Rockwell, picturesque bodyguard of the presidents; Major John Pack, wild beast hunter; Jesse C. Little, trusted envoy of the Saints at the nation's capital; John Brown, Joseph Mathews and "one other."

This group explored the valley as far as the warm sulphur springs at the north, then returned to the mouth of City Creek canyon where they turned the stream to soften the ground, then plowed it up. President Woodruff furnished the precious potato seed for this plot two days later.

The bas-relief running across the length of the monument represents the original pioneer party of 148 people, with their ox-teams and covered wagons, on the trail.

The bronze group at the right represents Fathers Escalante and Dominguez, who with seven others, passed through this

desert wilderness hunting a short cut from Santa Fe to Monterey Bay. On September 3, 1776, they were the first white men to discover Utah lake. Although they did not reach Salt lake, they gave the name Santa Ana to the Jordan river. Father Escalante's journal describes the region.

At the left is a group of the fur traders led by Gen. William H. Ashley, prosperous, shrewd and honest. In 1825 he built a fort at Utah lake and imported a six-pounder to protect it. His Mountain Men included Jim Bridger who discovered Great Salt lake and sailed on it in a leather boat; Jedediah Strong Smith who traversed the region from the Rockies to the Pacific several times and met his death at the hands of Indians; Hugh Glass, who tussled with a grizzly; David E. Jackson (Jackson's Hole); and Etienne Provot who gave his name to a city (Provo). Other intrepid trappers were the Sublettes, Robert Campbell, Thomas Fitzpatrick, and Major Andrew Henry who blazed the trail before any of them.

At the back of the monument are six single figures. These represent Peter Skene Ogden, Christopher (Kit) Carson, Captain B. L. E. Bonneville, Father Pierre Jean De Smet, Gen. John C. Fremont and Chief Washakie.

Ogden, whose name is perpetuated in Utah's second largest city, a valley, canyon and river, played an important part in the struggle for supremacy between British and American fur interests in this area. A representative of Hudson's Bay Fur company, he spent the winter of 1828-29 on Ogden river, suffering extreme hardship.

Kit Carson guided John C. Fremont on his trans-western expeditions. Before that he had "traded, wintered and acted as hunter" in Utah in the vicinity of Brown's hole. He later lived at Taos, New Mexico, where he died.

Capt. Bonneville, whose name later was given to the prehistoric fresh water lake that preceded its salty remnant, was a graduate of West Point who in 1832 led 110 men in exploration of the far West, with headquarters at Green river.

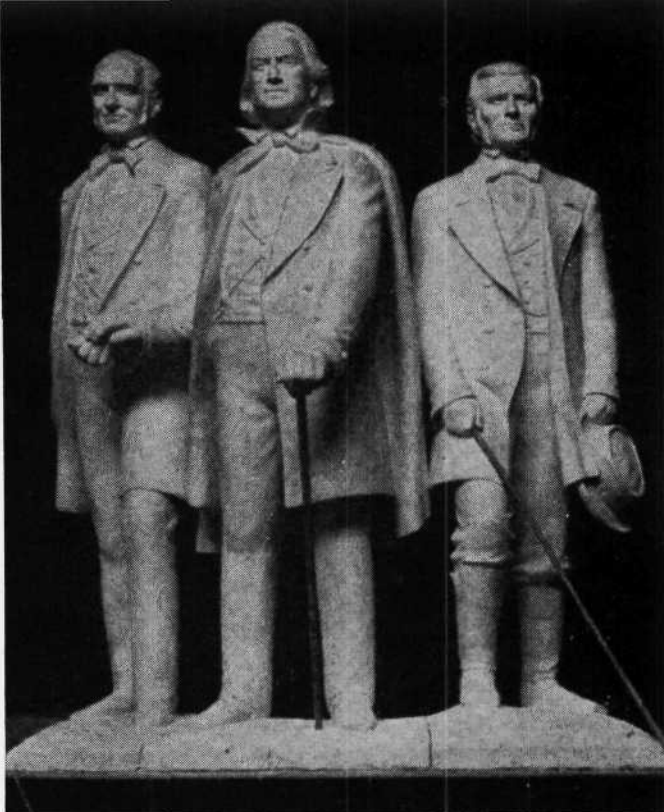
Father De Smet left St. Louis in 1840 as a missionary to the Flathead Indians. He named Independence rock in Wyoming the "Register of the Desert." In 1846 he met Brigham Young and the Mormon pioneers at winter quarters. Of their meeting he wrote: "In the fall of 1846, as I drew near to the frontier of the state of Missouri, I found the advance guard of the Mormons, numbering about 10,000, camped on the territory of the Omaha, not far from the old Council Bluffs. They asked me a thousand questions about the regions I had explored and the valley which I have just described pleased them greatly from the description I gave them of it."

Pathfinder John C. Fremont made the first topographical survey and prepared the first map of the country in the vicinity of Great Salt lake. One of its islands bears his name. In 1843 he established a camp at Little mountain west of Ogden, overlooking the lake near Promontory point. From here he explored the surrounding region. His map and report, published by the government in 1845, were of great assistance to the Mormon pioneers.

Washakie, chief of the Shoshone tribe, born in 1814, was an outstanding Indian leader when the pioneers came. Friendly and cooperative, he rendered valuable aid when the border settlements were threatened by hostile bands. He and Brigham Young became close friends.

The large plaque on the reverse side of the monument honors the Donner party which passed through Salt Lake valley in 1846 en route to the coast. Led by George and Jacob Donner and James F. Reed, they separated from a larger company to take, as they thought, a short cut to California. They blazed a trail through the mountains from Weber river to Salt Lake valley.

When the Mormon pioneers came over the same route the following year, they were able to follow in their footsteps. The chopping of trees and willows and the removal of large rocks



Crowning the memorial monument are the figures (left to right) of Heber C. Kimball, Brigham Young and Wilford Woodruff.

by the Donner party probably enabled the Utah pioneers to save several weeks' time, precious for the planting of crops. The disaster that overtook the Donner group in the snows of the Sierra Nevada mountains is a tragic chapter in the history of the West.

In the petition to the governor and legislative assembly of Utah asking for the Memorial the following points were made: "These Pioneers of July, 1847, were the first settlers in this vast region for the purpose of establishing permanent homes.

"They raised Old Glory in the name of the United States and took possession of territory then belonging to the country of Mexico.

"From the nucleus of that first settlement in Salt Lake city they reached out to establish settlements to the north, the east, the south and the west. In addition to Utah, they made settlements in what are now the geographic boundaries of Nevada, California, Idaho, Wyoming, Colorado, and Arizona.

"These pioneers in this large territory built the first homes, schools and highways; plowed the first furrows, planted the first seeds and trees; dug the first irrigation ditches, irrigated the first farms, and harvested the first crops, and established the first methods of intersettlement communication and commerce.

"They gave valuable aid to other pioneers as they passed through their settlements, helped in establishing the Pony express, building the telegraph lines, constructing the railroads, and rendered valiant service in preserving and policing them.

"Wherever possible they established, under a definite policy, friendly relations with the Indians and in consequence thereof minimized Indian ravages and depredations, and thus contributed in a large measure to the safety of travel of pioneers to California, Oregon, Washington, Idaho and Nevada.

"In colonizing this territory they not only established homes for themselves, but rendered a national service in the colonization of the West.

"The achievements of the Mormon battalion have been justly commemorated by a suitable monument, but it is to be remembered that the battalion grew out of the movement westward of these Mormon pioneers and that all of the reasons which justified that monument now justify the commemoration of the larger movement of which it was a part."



PARK SERVICE MEN WRITE ABOUT ARIZONA TREASURES

"Arizona, someone has sagely remarked, is geology by day and astronomy by night. It might be added that at dawn and dusk, those all-too-brief interludes between day and night, Arizona is biology." This is the way Natt Dodge sums up the corner of Arizona which he writes about in *ARIZONA'S NATIONAL MONUMENTS*, recently published by Southwestern Monuments Association, Santa Fe, Dale S. King, editor, and Natt Dodge, executive secretary. Arizona is geology and astronomy and biology—and it is much more. There are so many extravaganzas of nature, so many strange and wonderful remains of civilizations that flourished and died here that a single guidebook, as editors and writers well know, is quite inadequate.

So the present undertaking treats only of the state's 16 national monuments—and this does not mean there are commemorative obelisks and granite columns planted in various spots. For a national monument, as defined by the National Park service, is an area set aside to preserve historic landmarks, historic or prehistoric structures, and other objects of historic or scientific interest situated on lands owned or controlled by the United States. Therefore, treated in *ARIZONA'S NATIONAL MONUMENTS* are some of the Southwest's richest treasures which belong to every American. They range from the wonders of nature as manifested in Grand Canyon and Sunset Crater monuments, through those of peculiar botanical and wildlife interest such as Organ Pipe and Saguaro, to the remarkable and varied ruins of prehistoric tribesmen as seen at Canyon de Chelly, Casa Grande, Montezuma Castle and other monuments in the state.

This is a compilation of articles written by custodians, rangers and guides who have the responsibility of safeguarding their areas and for carrying out the "tradition of friendliness and genuine courtesy" which is emphasized by Superintendent Hugh M. Miller. Each section is profusely illustrated, both with photos and maps. The full color plates, the large format (8½x11) and fine quality paper add to its value and beauty for all who have traveled in Arizona or hope to—and for their friends.

Cloth binding, 116 pages including 233 halftones, 21 line drawings and maps, 8 full color plates. \$3.00.

NEW EDITION READY FOR GEM CUTTERS

J. Harry Howard's *Handbook for the Amateur Lapidary* since it was first published in 1935 has been a standard guide for beginning gem cutters. But recognizing the great strides which the art has taken in very recent years, the author in June, 1946, published a completely rewritten and enlarged version, *REVISED LAPIDARY HANDBOOK*.

The function of such a book, Mr. Howard stresses, is not merely to give cut and dried instruction, but to awaken the desire to try the many schemes outlined as well as the many that may suggest themselves to the worker. He insists that constant experimenting by the worker is of more value than all instruction.

Chapters start at the rudimentary beginning of gem cutting—sawing and cabochon cutting, and progress to the cutting of diamonds. A list of helpful publications and of equipment and supply houses is included.

Drawings and photos, 225 pages, index, cloth binding. \$3.00.

DIARY DESCRIBES MARCH TO DEPOSE MORMON LEADER

Day-by-day account of a dramatic event in Mormon history—the march of the Utah expedition commonly known as Johnston's army—is described in the journal of Capt. Albert Tracy, a member of the expedition, which recently was published by Utah State Historical society, Salt Lake City. The Utah expedition, commanded by Gen. Albert Sidney Johnston, was sent in 1858 to Utah by Pres. James Buchanan to depose Brigham Young as governor of Utah territory and to put in his place a federal appointee, Alfred Cumming. When the soldiers arrived they found the city deserted, Brigham Young having ordered the inhabitants to Provo.

Tracy's journal, although anti-Mormon, contains good descriptions of the country through which the expedition passed, of Salt Lake City and of life at Camp Floyd, where the army remained for several years. Original of the journal is in New York City public library. Herbert S. Auerbach, to whom the publication is dedicated, had had photostatic copies of each page made and was in process of editing it upon his death in March, 1945. It was completed by J. Cecil Alter, editor of the historical society.

RADIO "ROMANCE" SERIES NOW IN BOOK FORM

Fans of Commander A. W. Scott's Sunday morning radio program, "Romance of the Highways," will enjoy his recent book *ROMANCE OF THE HIGHWAYS OF CALIFORNIA*.

In a leisurely, intimate way Commander Scott describes the highways and byways of California, presenting his material in travelog manner. Entering the golden state from Arizona at the southern-most tip, the author's jaunt takes him slowly north, visiting all the well-known and many of the little-known places of interest along the way. Bits of history, legend, and local color are included as well as hints to the tourist about how to make a successful tour of California. The book itself is attractively and amply illustrated with pen and ink sketches and photographs.

Griffin-Patterson Co., Glendale, Calif. 319 pp., index, appen., maps. \$3.00.

—Alton DuBois

BOOK BRIEFS . . .

Pueblo Crafts, written by Ruth Underhill and published this year by United States Indian service, is a pamphlet briefly describing contemporary arts of the Pueblo Indians of Arizona and New Mexico—basketry, weaving, pottery, making of stone tools and weapons, work in skins, jewelry, music and painting. Especially for use by Indian Service teachers and adult classes. Bibliography. Available from Phoenix Indian school, Phoenix, Arizona. 50 cents.

First two volumes of a five volume set, *Handbook of South American Indians*, recently have been completed. Smithsonian Institution through its Bureau of Ethnology has the responsibility for the undertaking, which in 1940 was made a part of the program of Interdepartmental committee on Cultural and Scientific Cooperation of the Department of State. It was an inter-American project, with over 100 scientists of all the countries of the Americas taking part. The five volumes are being published as Bulletin 143 of Bureau of American Ethnology, Washington, D. C.

On the list of University of California Press for October publication is *Hubert Howe Bancroft: Historian of the West*, by John W. Caughey, first biography of the man whose famous 39 volumes stand on the shelves of nearly every collector of Western Americana. Price about \$5.00.

Roy A. Keech, who wrote *Pagans Praying* and *Poems of New Mexico*, recently completed another volume of verse—this time entirely in Spanish. It is *Poemas de Santa Fe*, published by Autograph Editions, Santa Fe, 60c. Designed and handset by Paul Emile Miller, with foreword by Señora Aurora Lucero White, folklorist.

We Found Crystals in the Hopi Buttes

Following a clue given him by a Hopi boy, Alfred Hipkoe discovered a field where augite crystals lay so dense on the ground they reflected the sun's rays "like rippling water." Augite occurs in lava, has a hardness of 5.5, dark green to black color, vitreous luster and translucent edges. It is found in many parts of the world, but this is the first important deposit reported for Desert readers.

By ALFRED R. HIPKOE

WHAT kind of crystals are those down in the Buttes?" Chester Mota asked. Chester was one of my rock drillers in the rock cuts of a road we were constructing up the side of the Second Mesa near Shungopovi. He is a young Hopi, well educated, intelligent and a splendid worker as are most of his tribesmen. We frequently discussed rocks among other subjects.

"Those Buttes cover a lot of territory," I answered. "Where are the crystals and what do they look like?"

"They are down at Set-sin-to, that's Dog Water springs in Navajo. A few years ago I was working there with the Irrigation service putting in the concrete troughs and dipping vats; it was then that I saw the crystals. They were shiny and black, cut sharp and many sided. I have asked many people about them, but no one seems to know what they are."

I also had to confess my ignorance, but I made a mental note of the location and resolved to visit the place when I had the opportunity.

Some time after my talk with Chester Mota, I obtained the bulletin of the Geographical Society of America on the Pliocene volcanoes of the Navajo-Hopi Country of Arizona by Howell Williams, which listed the varieties of crystals to be found in this field. One of the crystals named was augite, a pyroxine. I found small ones in a few locations which were large enough to study. This paper also stated that much of the Hopi butte country had been under water in the Pliocene times in what Mr. Williams has named the Hopi Lake. Most of the larger buttes apparently were formed above water level of the lake and the basalt is hard and weather resisting.



The author seeking crystals at the foot of the cliff at Set-sin-to spring.

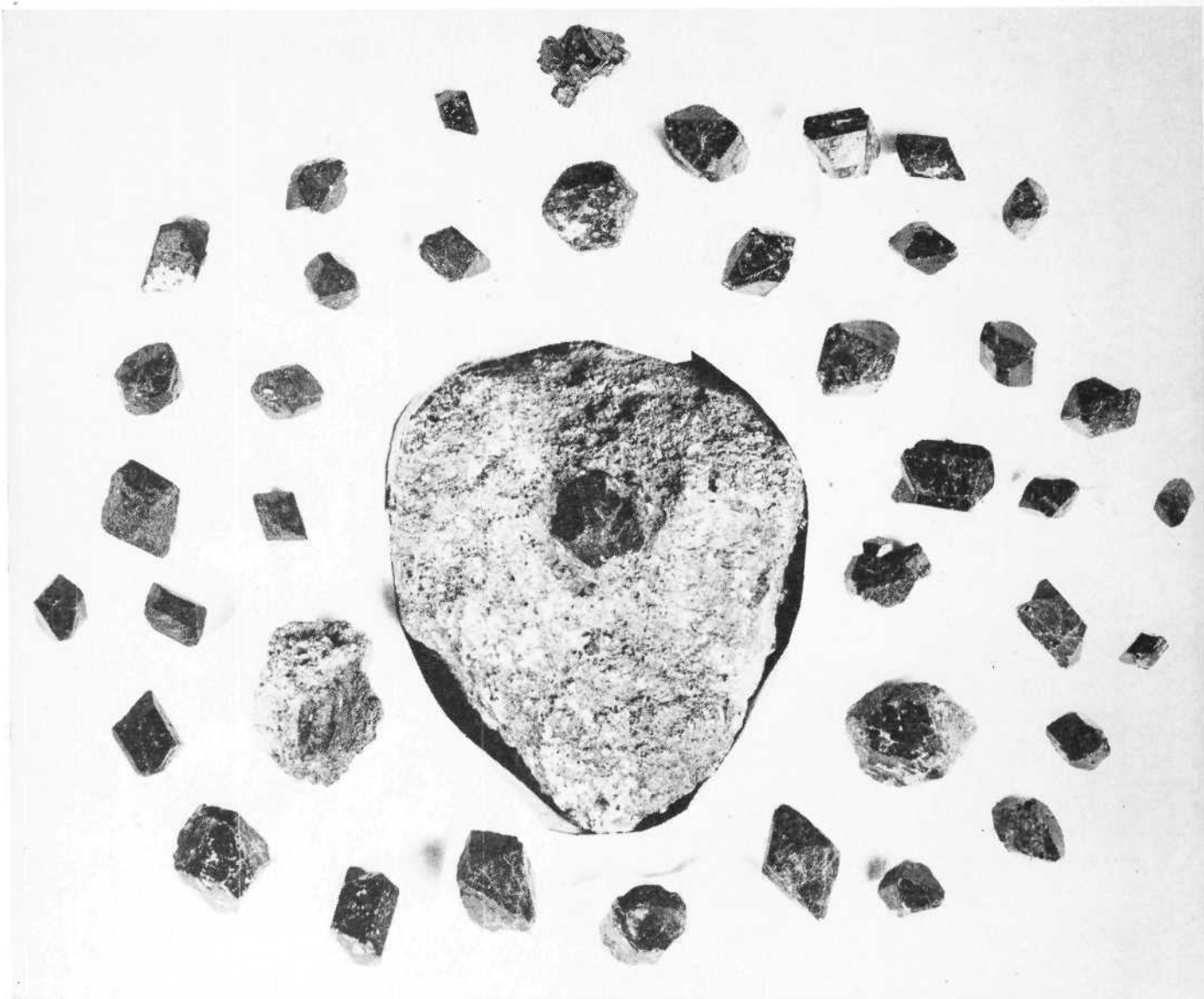
The crystals in these masses, I found, were small and difficult to extract. The low volcanic extrusions are soft and friable, the reason for which I suppose to be from deposition under water. In these latter rocks I had found some perfect crystals that had eroded completely from their matrices.

With this much knowledge, I easily persuaded my friend Bill Butler, who also is an outdoor enthusiast, to accompany me on an exploring trip to the Buttes in an effort to locate Set-sin-to and some of the larger crystals.

Early one crisp December morning we

started. Four and one half miles east of Winslow on Highway 66, we turned north on what is known locally as the Painted Desert road. This road skirts a portion of the Painted Desert north of Winslow for about 10 miles. Early morning or late evening, we think, is the best time to visit this area, because at that time of day, shadows throw the shapes of the ridges in bold relief and seem to enhance the beautiful colors.

The main road is good in dry weather although somewhat crooked in places. Along this winding road one may pick up black



Augite crystals, some twinned, some simple. The largest is about one-half inch in diameter and about three-quarters of an inch long. The one in the center was found embedded in its native matrix of basalt.

petrified wood, and off one of the spurs leading out into the badlands, fossil oyster or clam shells may be found. At 24½ miles from Winslow the road forks. Either of the branches will lead to our destination, but the left fork, the Polacca road, being the best, I will describe that route.

At this point we left the rim of the Painted Desert, and the outposts of the Buttes lay before us. Chimney and Castle Buttes are rocky crags a short distance to the north of the road; others, such as Chandler, an almost perfect cone, Round Top and Montezuma's Chair are off to our left.

At 36½ miles, a well used road crosses the Polacca road. This is the Leupp-Dilkon-Indian Wells route and is well signed. Here we turned right and were soon at Dilkon where Mr. and Mrs. J. W. Bush have had a trading post and post office for 30 years. There is little of this

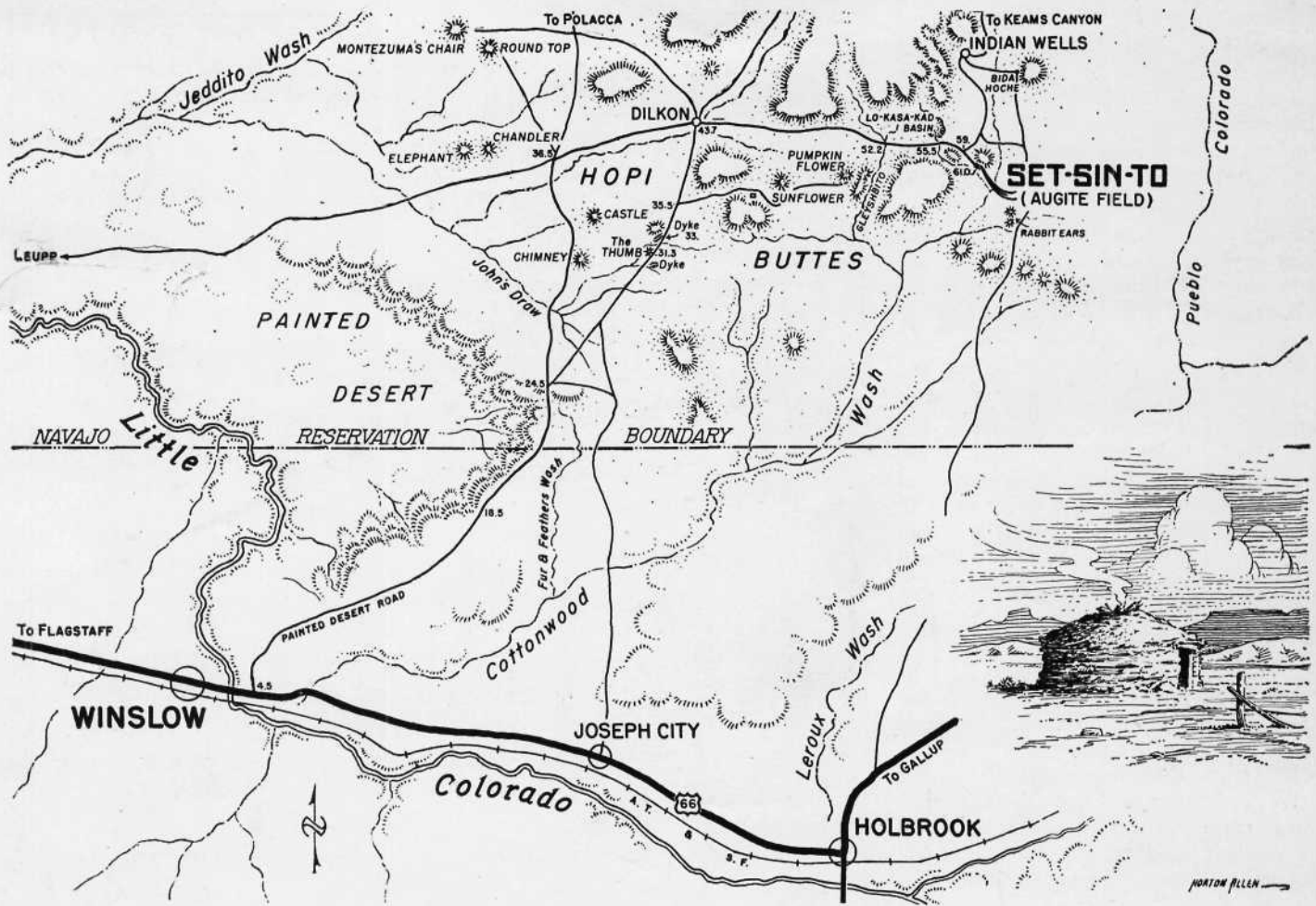
country that Bush does not know intimately, for at one time he was a surveyor. He still is a prospector at heart.

"Of course I can tell you how to find Set-sin-to," he said in answer to our query. "Drive along the Indian Wells road to the plateau just east of the Lo-kasa-kad, then turn to the right on the first road. Just after you drop off the plateau turn left on the first road and in a few hundred yards you will find the spring and the corrals."

The hub of the Butte country seems to be at Dilkon, for here roads branch in every direction and the signpost looked like the spokes on a wagon wheel. We selected from these signs one pointing in the direction of Indian Wells and headed east. The drive through these buttes is delightful. Flocks of Navajo sheep, usually herded by a child or Navajo woman, dot the wide grassy valleys. Some of the buttes are small and isolated, others reach the pro-

portions of mesas or table lands many square miles in extent. Eight and one half miles east of Dilkon we crossed Gleyshbi-to wash, usually dry, but during summer rains it may become a formidable stream. This crossing is marked by the ruin of an old rock house.

Two and seven-tenths miles farther we crossed Lo-kasa-kad wash and to our left are the massive fluted perpendicular walls of Lo-kasa-kad basin. This natural amphitheatre would put to shame the Rose Bowl or similar man-made stadia. The floor of the basin is flat and about one-quarter of a mile in diameter, covered with a good stand of juniper. The strata forming the sides slope inward at about a 30 degree angle from the horizontal. The wash has cut a channel about 50 feet wide through the sides of the bowl and one may drive into the basin. The Indian service has built a stone dam across the gorge through the



north side of the bowl, creating a reservoir, the water from which is used to irrigate some small farms farther downstream.

Returning to the road, we continued up a slope to the flat grassy plateau and in less than a mile the road which Bush had de-

scribed branched to the right. Passing two hogans and sheep corrals, the road led us to the edge of a broad valley. There it dipped

Bill Butler gathers "shining rocks" on top of cliff where augite crystals sparkled in the sun.



sharply and to the left was a black cliff, the top of which appeared much the same as the rest of the mesa. At the bottom of the slope, a road branched to the left, leading us directly to the base of the black cliff where are located the corrals, dipping vat, and troughs which are fed from the spring called Set-Sin-to.

We parked the car and began looking for augite. Low, red sand knolls abutted the cliffs and in these were many of the black, shiny crystals which had weathered from the volcanic rock cliff.

As we groped about looking for the crystals, occasional Navajo horsemen passed. They were curious I am sure, but none would stop and talk. Some would come into sight singing their high pitched Navajo chant, but as soon as they saw us they were silent and rode by eyeing us continually. It is a good plan when roaming this country, to bring a few simple gifts to give these folks, thereby allaying their suspicion of outsiders.

We gathered crystals out of the sand for awhile, finding some perfect ones, but most of them broken. Then we wandered east along the base of the cliff and up a slope where there were many more of the stones. Here too were many of the crystals in the basalt matrix. Up we climbed along a winding water worn crevice where the crystals dot the rocks like raisins in raisin bread.

At the top of the cliff Bill exclaimed, "Look at those shining rocks."

Sure enough, the flat surface at the top of the cliff was glittering. The sun was low in the sky and the shiny facets of the loose crystals which here covered the ground in almost a solid mass, reflected the sun's rays as on rippling water.

The crystals on this cliff top apparently had weathered from the soft black volcanic rock through many ages past and although most of them were broken and the edges of some were slightly eroded by frost action, the fact that they were in such a good state of preservation attests to their hardness and durability.

The sun had by this time set behind the hills and we could no longer see to collect the crystals. We had by no means taken all that we could carry nor was there any danger of exhausting the field—there still are millions of them to be picked up.

On the return trip, we again stopped at Dilkon where we showed the Bushes and a few Navajo gathered there our collection. The Indians were very much interested. They often attach too much value to objects found in their country. Augite crystals actually have little commercial value. Like many other specimens, their worth is a personal matter—the pleasure derived from having gone out to some remote location and found them yourself.

DESERT QUIZ

There's a bit of history, geography, botany, mineralogy and general lore of the desert in this quiz, and the average reader is not expected to know all these subjects. But all these facts are worth knowing, especially if you are a frequent or occasional visitor to the desert country. If you know half the answers, that is better than an average score. Fifteen is exceptionally good. Any score above 15 is super. The answers are on page 38.

- 1—The Mormons originally went to Utah— To seek gold.....
To hunt buffalo..... To trap beaver..... To escape persecution.....
- 2—The most widely known participant in the "Lincoln County War" of New Mexico, was— Wyatt Earp..... Billy the Kid..... Ike Clanton..... Geronimo.....
- 3—The piki made by the Hopi Indians is a— Drink.....
Food..... Medicine..... Cure for snakebites.....
- 4—If you found the fossil imprint of a butterfly in a slab of limestone, the scientist most directly concerned with this phenomenon would be a—
Meteorologist..... Archeologist..... Paleontologist..... Mineralogist.....
- 5—The name John D. Lee was associated with—
The Mountain Meadows massacre..... The discovery of Meteor crater.....
The Gadsden Purchase..... First trip down the Grand Canyon by boat.....
- 6—Trona, California, is best known for its production of—
Gold..... Chemicals..... Gypsum..... Quicksilver.....
- 7—The Arizona home of Dick Wick Hall's frog that never learned to swim was— Quartzsite..... Wickenburg..... Salome..... Hassayampa.....
- 8—Bright Angel trail leads to— Bottom of Grand Canyon..... Top of Mt. Whitney.....
Rainbow Natural bridge..... Valley of Fire in Nevada.....
- 9—One of the following states does not meet at the famous "Four Corners" of the Southwest— Utah..... Wyoming..... Colorado..... New Mexico.....
- 10—Hohokam is the name given the ancient people who once occupied—
Grand Canyon..... Escalante desert..... Southern Nevada.....
Salt River valley in Arizona.....
- 11—The hardest of the following minerals is—
Calcite..... Fluorite..... Feldspar..... Topaz.....
- 12—Deglet Noor is the name of— An Indian tribe..... A species of dates.....
A famous Navajo medicine man..... A mountain range in Utah.....
- 13—A miner with a cinnabar deposit would produce—
Tin..... Aluminum..... Platinum..... Quicksilver.....
- 14—If you wanted to visit Pyramid lake you would go to—
Arizona..... Utah..... New Mexico..... Nevada.....
- 15—Tallest among the cacti of the Great American desert is the—
Organ Pipe..... Bisnaga..... Saguaro..... Prickly Pear.....
- 16—The names Ben Halladay, Henry Monk and James E. Birch are associated with—
Early stage coach operations in the Southwest..... Settlement of Utah by the Mormons.....
Reclamation of the Salt River Valley..... Apache wars.....
- 17—Morro Rock in New Mexico is best known for its— Peculiar shape.....
Historical inscriptions..... Sacredness to the Indians.....
Inaccessibility to climbers.....
- 18—In the annual Snake dance of the Hopi Indians, the Snake clan is assisted by the—
Katchina clan..... Corn clan..... Antelope clan..... Squash clan.....
- 19—Mineral collector's item most commonly found on the desert of the Southwest is—
Turquoise..... Jasper..... Malachite..... Tourmaline.....
- 20—Datura or Jimson found on the desert is best known for its— Sweet aroma.....
Narcotic effect..... Gorgeous red blossom..... Food value.....



All that remains of the Walker grave is a pit in the talus among the Aspen trees high up on Walker mountain.

We Found the Grave of the Utah Chief

By CHARLES KELLY

Greatest of all the Utah Indian chiefs, Wakara also was a very successful horse thief. He stole horses because his tribesmen needed food. He was a benevolent sort of brigand and made a treaty of peace with Brigham Young which gave the Mormon settlers protection against Indian depredations. He died in 1855—and here is the story of Charles Kelly's visit to the hidden grave where he was buried.

WHILE gathering material for a small book on the life of Walker, Utah's most famous Indian chief-tain, I learned he died at a camp between the present towns of Meadow and Kanosh in Millard county, and was buried with great ceremony somewhere in the vicinity. Believing a photograph of his grave would add considerable interest to the record I wrote Frank Beckwith, Millard county historian, asking if he knew where the grave was located and if it would be possible to photograph it.

For many years Frank has been studying Indian lore and is well acquainted with the small remnant of Chief Walker's people who live in a settlement near Kanosh. Joe Pickyavit, for many years chief of this group and now tribal judge, is Frank's particular friend. Frank wrote Joe, who replied he thought he could find the grave and would take us there, provided we

would promise not to disturb it or dig for relics. This was a sincere compliment to Frank's standing with the Indians, since they are very superstitious about old burials. It must be admitted I was somewhat skeptical, but Joe surprised us (and even himself) by making good his promise.

To understand Chief Walker's importance to Utah history, one should know something of his life story. Wakara (meaning "yellow"), or Walker as he generally was known to the whites, was a Timpanogos Ute born near Utah lake about 1800. At that time Indians of Utah, generally classified as Pah-utahs, were scattered throughout the territory in small bands under local leaders, without any great chief-tain. Occupying a barren and unproductive country, they were desperately poor, living on roots, rodents and grasshoppers. Early trappers called them Root Diggers, considering them the lowest specimens of hu-

manity. With inferior weapons they had a very poor reputation as fighters.

Like his contemporary Washakie, the great Shoshone chief, Walker was born with unusual intelligence and energy. Early distinguishing himself as a fighter, he soon organized his own band of young warriors and with these began raiding the Shoshones, successfully stealing their horses and women. When American trappers first entered Utah, he was recognized war chief of the Timpanogos Utes. Immediately recognizing the superiority of white men's weapons, he made friends with the trappers, traded for rifles, and in a very short time forced his authority upon all scattered bands in the territory, organizing them into what was called the Utah tribe.

The first white men Walker ever saw were Spanish traders from Santa Fe, who came to his father's village on Utah lake,



Walker mountain, near Kanosh, Utah. Chief Walker was buried below the great rockslide near the top of the mountain. Walker canyon is on the left, Dry canyon on the right.

following Father Escalante's old trail of 1776. Walker's father traded for a horse, but not knowing how to care for it, kept it tied to his wickiup until it starved to death. After 1830 caravans of Spanish and Mexican traders began making annual journeys to Los Angeles over what is known as the Old Spanish Trail, to exchange blankets, cloth and trinkets for California horses. By that time Walker was powerful enough to have killed them all and taken their goods, but he was too smart a chief to take such drastic action. Instead he stationed himself along the trail, near what is now Parowan, Utah, and collected a tax from passing caravans, guaranteeing for this fee a safe passage through his country. His word was good and traders paid the tax cheerfully.

Returning from California, these traders began exchanging horses for Indian children with some of the poorer bands along the way. Constantly faced with starvation, Indian parents did not hesitate to trade a child for a fat horse, which they immediately killed and ate. These child slaves then were sold in New Mexico, bringing from \$100 to \$500 in gold. Realizing the big profits in this traffic, Walker soon began capturing children from the poorer bands in his territory and traded them to the Mexicans. Child slaves were a recognized trade commodity from 1830 to about 1851.

Being an enterprising man, Walker was not content with the revenue derived from passing traders. From American trappers he heard of the immense herds of fine horses running unguarded in the valleys of California, and could see no reason why he should not help himself to some of them. His first horse stealing expedition,

and one of the most successful, occurred in 1840, when he went to California as an equal partner with such American stalwarts as Joe Walker, Pegleg Smith, Jim Baker and others. He continued his annual raids long after the trappers reformed and became solid citizens, making himself through this traffic, the wealthiest Indian in Utah history.

When Mormon pioneers arrived in 1847, Chief Walker was the unquestioned ruler of Utah with a well trained band of warriors who easily could have wiped out the new colony of whites. But he claimed to have had a dream in which he foresaw the arrival of white farmers and was instructed by his guiding spirit to be friendly to them. That he was not hostile to white settlement is shown by his failure to visit the Mormon colony at Great Salt Lake until 1849. At that time he expressed great friendship and asked Brigham Young to send a group of farmers to southern Utah, where he had his permanent camp, promising cooperation and protection. He visited Brigham again in 1851, renewed his request, and with three other Indian leaders was baptized a Mormon and made an elder in the church. A settlement was made near his camp at Manti that same year.

When Mormons began spreading southward, founding new towns, they selected choice land formerly occupied by Indians, and killed off deer and mountain sheep. When Indians became hungry they naturally helped themselves to Mormon cattle. Considerable friction developed, with provocation on both sides. But Walker cautioned his people not to steal and maintained his friendship with Brigham Young. What is called the Walker war occurred in 1853, but Walker himself was in

California on one of his raids during most of the trouble. After six months an armistice was declared. Peace was made in 1854 when Brigham visited Walker's camp near Fillmore, and their former friendship was resumed. S. N. Carvalho, artist for Fremont, was present at this council and gave a fine description of the ceremonies in *Perilous Adventures in the Far West*.

In January, 1855, Chief Walker was camped on Meadow creek with most of his band. While gambling with the Pahvants he became excited and broke a blood vessel in his neck. When Dimick Huntington arrived from Salt Lake City with a letter and present from Brigham, Walker was too sick to receive them. Next day, January 29, he died.

Messengers were sent to Fillmore warning whites to stay away from camp during the funeral ceremonies. Walker was the only great chief the Utahs ever had. They planned to bury him with highest honors. A location for the grave was selected and the chief's body carried to it on a horse. Two women prisoners were killed to serve him in the hereafter and two small girl prisoners buried alive with the women. A ten-year-old boy was imprisoned alive over the chief's grave. Fifteen horses then were killed so that Walker could ride in the happy hunting ground. Altogether it was the most spectacular funeral ever conducted in Utah.

Contrary to expectations, Joe Pickyavit seemed perfectly willing to guide us to Walker's grave when Frank Beckwith and I arrived at his home near Kanosh. Being well acquainted with Frank he answered our questions readily and intelligently. We soon found he had a keen sense of humor.

Joe guided us up a steep canyon, over a

rough narrow road seldom traveled. At its termination we left the car and started climbing a steep side gulch which, after a couple of miles, took us to a point just below the highest peak of the mountain. As we climbed Joe pointed out various plants and herbs, telling us their Indian names and uses. When our breath became short he entertained us with jokes and stories. Although he weighs around 250 pounds he seemed to climb without effort.

When we were about exhausted, Joe brought us to the base of a great rock slide. Extending downward from the summit was a conspicuous outcrop of white rock which he told us was "Walker's monument." The grave, he said, should be directly below that marker. For the first time he hesitated, studying his landmarks, then started downward.

"It should be about there," he told us, pointing to a spot below. "We'll go down and have a look."

A dead pine stood above the surrounding growth and Joe used it as a landmark. We worked our way over loose slide rock to a point below the dead tree, where we scattered and began searching for signs of a burial. None of the rocks seemed to have been disturbed. Finally I saw some of a slightly lighter color and dropped down to investigate. Still no signs of a grave. Then, walking slowly across the slide, I almost fell into it.

"Here it is!" I shouted excitedly, as Joe and Frank came climbing down. When they reached the place we all looked into a hole about seven feet deep and ten feet across the top. It had been made, according to old Indian custom, by removing rocks from the slide. Walker's body had been placed in the bottom, then poles were laid across and this platform covered with rocks previously removed.

Joe had warned us that Walker's grave had been rifled, so we were prepared to find it empty. White ghoul had removed everything—bones, clothing, rifles and all the other goods buried with the chief. We did not even find a loose bead. The protecting poles were still there, thrown aside by the robbers, leaving the hole just as it was when Walker's body was put into it. Many other Indians, including several chiefs, were buried lower on the mountain, but this spot, just under the highest peak, was reserved for Chief Walker, and no burials ever will be made above him. It was a beautiful spot.

In scrambling over rocks and through dense brush along the trail the back of Frank's Graflex camera had fallen off and we were disappointed in not being able to take photographs. I had to be satisfied with a rough sketch. When it was finished we began exploring the vicinity and found



Joe Pickyavit, former chief and now tribal judge of the Indian settlement near Kanosh, Utah, who guided Charles Kelly and Frank Beckwith to the grave of Chief Walker. Photo by Beckwith.

another burial, perhaps the grave of Walker's two women prisoners. These had not been disturbed, and to prevent their discovery and robbery I have neglected to give all the landmarks surrounding the place. Without a guide the spot would be impossible to find.

"Do you know when Walker's grave was robbed?" I asked Joe.

"About 1909 I think," he replied, "but we do not know who did it."

"When were you last here?" Frank asked.

"I was never here before," Joe said.

"Do you mean to say you guided us directly to this spot without ever having been here yourself?"

"Yes," Joe said, "that is true. I was told about the grave 25 years ago by an old man of our people. He gave me the landmarks

and I remembered them. This is the first time I ever saw the exact spot."

I am sure Joe told the truth, because when we arrived in the vicinity he did not know just what to look for and actually was as surprised as we to find such a large hole in the rock slide. Being a sincere student of his own native religion he later told us he was guided to the spot by unseen powers.

Fifteen horses were killed at Walker's grave and in order further to identify the place we began searching for horse bones. Frank and Joe soon found enough to satisfy me we had found Walker's actual burial place.

Half way back to the car Joe calmly picked up the lost film holder and handed it to Frank. Our trail, invisible to us, had been plain to him. Indians, Joe explained, never get lost. After that experience I believe him!

LETTERS...

Those New Mexico Bombs . . .

Albuquerque, New Mexico
Editor, Desert:

I was stumped when I came to Question 17 in the August Quiz. Having spent two years in photographic work on the development of the atomic bomb I was sure I could answer this one, but was puzzled after reading the four questions for none of them called for the right answer. Then I turned to page 36 and found the answer was correct, although it answered none of the four questions in the Quiz.

GEO. W. THOMPSON

Apologies to Reader Thompson and other Quiz fans who were misled by the questions in the August Quiz. Quiz editor got his rocket bombs and his atomic bombs mixed up.

Homesick for Civilization . . .

Highland, California
Dear Mr. Henderson:

I am just an average American—too dumb to get rich, foolish enough to help my fellow being in his hour of need, even to dividing my last crumb with him, yet I have been able to eke out an existence by the "weak mind and strong back" method whenever there was a demand for a strong back. I have always been as happy as if I had good sense. With the Apostle Paul I can say, "I have learned, in whatsoever state I am, therewith to be content." (Phil. 4:II) My contentment has been based on the belief that I was a citizen of a civilized country—a great democracy. But your first editorial in the August issue of the Desert Magazine has taken all the wind out of my sails. I am blue and discouraged. Woe is me. Please, Oh please, Mr. Henderson, do not write any more editorials like that. You are making me homesick for civilization—and for Christianity.

GEO. E. WRIGHT

In Defense of Teen-agers . . .

Los Angeles, California
Dear Desert:

The flamboyant and shallow philosophy which every "teen-ager" is thought to possess, I do not think is fully deserved. I have just graduated from high school, and during all my high school years I have read Desert. It often took me away from my hard studies and books, and gave me peaceful soliloquies with the country I've come to love. Being a Scout, I've done much hiking in the desert. Therefore I search your magazine eagerly each month and devour those fascinating stories about trips up palm-fringed canyons.

ED KIESSLING

Sacred Bird of the Hopi . . .

Escondido, California
Dear Mr. Henderson:

The undersigned read with considerable interest the eagle article in your last issue of Desert Magazine. Having made a detailed study of the Golden Eagle for many years I cannot agree with many statements made in this article. Particularly with that part dealing with the attack by the parent eagle on a person. Many of our raptorial birds will make a real show at defending their home but I have never seen a Golden Eagle do so. I might add that my experience covers Golden Eagles living in desert regions and my observation has been that they are even more timid than birds that see people more often.

You see many newspaper articles dealing with eagles carrying away babies and attacking people but none have ever proved to be authentic when really investigated.

As a fictional story an eagle attacking a person reads good but from my observations and after checking with many people who have had lifelong contacts with the Golden Eagle I must say it is bunk.

J. B. DIXON

Summersville, West Virginia
Dear Mr. Henderson:

I am very much interested in the letter from your California reader in which he says a golden eagle will not fight to protect its young from danger.

For at least 20 years my Indian friends, not only the Hopi and Navajo, but New Mexico tribes, as well as the Shoshones and Blackfeet in Wyoming and Montana, have told me stories of their adventures in capturing eagles. I have the utmost confidence in what they tell me.

It would be interesting to have the opinions and actual experiences of Desert readers (should any of them have scaled sheer cliffs and robbed eagle nests) and I wish you would publish the protesting gentleman's letter. As you say, the Desert Magazine likes to know when one of its writers has been mistaken about desert subjects.

An eagle's cowardice has not been investigated by me, and I am here in the mountains completely away from our Fish and Wild Life authorities and files, so I am open to conviction.

You notice I say I am willing to be shown, but don't expect me to convince a clawed-up Hopi that an eagle won't scratch!

DAMA LANGLEY

Honor to Mrs. Sherman Hoyt . . .

Inglewood, California
Dear Mr. Henderson:

I write to you for information about Joshua Tree national monument. When the desert was being exploited and thousands of acres were being stripped for "dry farming"—usually to the destruction of the land and the farmer, where no water was procured later—a friend, Mrs. Albert Sherman Hoyt of Pasadena became active for the preservation of some of the best of the desert lands in their natural state.

She had received a great silver platter and medal from Mexico for her conservation work there. She took the lead in securing a presidential order setting aside the Joshua tree monument. I recall when she took Mr. Cammerer, then head of the national parks, on his reconnaissance trip through the area in her car, lunch basket and everything.

It seems to me it would be fitting, while her friends still live, to place a memorial plaque in the monument in recognition of her fine work. How does the idea strike you? If you approve, where would you suggest it be placed, and do you think desert dwellers would wish to help in this project, and particularly desert women's clubs?

The California History and Landmarks club of Los Angeles would take the lead and supply most of the cash—probably the total cost would not be over \$150.

BERTHA H. FULLER
State chairman, Conservation of Wildlife, California Federation of Women's Clubs.

Mrs. Fuller: I share your view that Mrs. Hoyt deserves credit above all others for providing the leadership that gave us the Joshua Tree monument. My suggestion is a simple plaque of native stone placed on one of the huge rock monoliths—perhaps at that lovely campsite across the road from Hidden Valley in the heart of the park.—R.H.

First Aid for Tourists . . .

Goldfield, Nevada
Dear Desert:

A great many people send you suggestions on various matters so I might as well jump in and get my feet wet.

It is amusing and pathetic to watch tourists try to converse with our Indian and Mexican population, and it has occurred to me you could do a good deed by including in your fine publication a column of phonetic Spanish. You know, something along the lines of the French-English editions which were in such general use during the World Wars.

I am sure these would be well received, and your readers get great benefits.

CAPT. HARRY H. HERTWECK

There aren't many places left in America where there is more silence than on Ghost Mountain, home of the Souths. But now that world of silence has been shattered—and not by noisy civilization of the outside world, but by a "boring from within." It all came about due to the inventiveness of Rudyard, the "artist" of the family. Marshal calls this new device of his son's "as incongruous (on Ghost Mountain) as an alarm clock ticking on the tomb of Eternal Silence."

Desert Refuge

By MARSHAL SOUTH

A SILENCE holds the desert. It weighs down upon the tops of the mountains, and in the sharp sunlight the thin dark shadows of the tall mesal poles seem to lie across it like bars of steel. Far off the tawny flanks of the buttes are pencilled with scribbles of white where the outcroppings of quartz and granite reefs shimmer in the heat. There are a few bees exploring hopefully in the illusion that they may find a leak in the tightly covered water barrel. In the tremendous hush their tiny murmurings are suggestive of querulous humanity, shouting its puny complaints amidst the awful silence of God.

Few individuals understand the tangible quality of silence, for silence has been all but banished from the modern world. In its place has come a muffled medley of ten thousand jarring undertones which beat so ceaselessly upon dulled nerves that they are accepted as quietude. "Ah, how silent," says the confirmed city-dweller. But the thing which he refers to is not silence. It merely is the muted mutterings of unceasing noise.

For silence is a real thing, a fundamental and a healing thing. I have had long-time denizens of civilization come out and stand upon the bald, wind-polished boulders of my mountaintop and complain that the desert silence hurt their ears; that it made them ring and pain with the very intensity of it. It frightened them. They were in somewhat the same case as a diver coming up into outer air from the previous pressure of ocean depths. They felt as though they were going to fly apart. Their long crushed-in nerves had nothing to lean against. The primeval silence of the desert made them suddenly afraid.

I have known the feeling and I can sympathize. Particularly do I remember one occasion, many years ago, when I had to go from Douglas, Arizona, down into Sonora, Mexico. Douglas is not a noisy place. And in those years, despite the presence at that time of a considerable military encampment, due to border unrest, we always looked upon it as a quiet little city.

But we soon were to find that the Douglas silence was of the synthetic variety. For as my companion and I drifted down into Sonora—first on the railroad to Nacozari, then in a weird and rickety old Ford—the desert rose up and wrapped its cloak around us. We did not notice it so much at Nacozari, for there the pulse of a mining town, even though beating in the leisurely harmony which belongs to all things Mexican, served somewhat to hold back the hush. But when we had left Nacozari behind us and had begun to bump and jounce south in our flivver along dusty Sonora trails, the thing really took hold of us and we began to understand how badly our ears had been abused.

The first night out of Nacozari we slept at Moctezuma. Moctezuma is—or was, in those days—one of the little dream towns of sunshine and shadows and crumbling 'dobe walls and drowsy burros which are the particular jewels of the Mexican desert. If you will trace down on the map you will find it marked below Cumpas. Moctezuma is no boom town or recent village.



Victoria, youngest of the South family, is watching the antics of a chipmunk.

There is an old church there which lays claim to almost four centuries of service. Its facade is elaborately carved and the carvings are deeply scored by time. The great church doors are studded with huge iron bosses, and behind them the hushed, shadowy interior of the great building is filled with peace—and ghosts.

And SILENCE. For in Moctezuma we really made the acquaintance of silence. Most Mexican desert towns are silent. But Moctezuma was super-silent. For it was dead. Revolution had killed it. War had closed all the surrounding mines and ruined the adjacent ranches. Political revenge had pitted its walls with the bullets of firing squads. The few inhabitants who remained moved slowly, their feet making no sound in the dust. When they spoke their voices were hushed. In the silence of the desert Moctezuma lay wrapped in the greater silence of death.

That night after supper—a silent meal served in the silence of a great room of a great house that had been looted and despoiled and had sunk into the silence of despair—my friend and I sat upon a silent, crumbling balcony where, through holes in the rotting floor boards we could look down into the blackness of a silent, deserted street. In the silence our locally made cigarettes of home-grown tobacco, that had been sold to us by a silent Mexican in a silent store, winked lonely points of fire against the massive adobe walls that backed us. Together, our chairs braced gingerly to avoid crashing through the moulder-

ing floor boards, we sat without speaking, watching the moon come up behind a weird range of ragged hills. Its silver touched the dome of the old church and woke it to a poignant, phantom beauty. The long, silver rays fell into the black caverns of empty streets and filled them with gibbering ghosts. Somewhere, a block away, a starving burro was nosing about in the shadows, seeking for some shreds of dry corn leaves. In the awful stillness the sound of its snuffing and munching was like the rustling of age-bleached bones.

SILENCE! That night when we went to sleep we both had terrible nightmares. Yes, silence, when you are unaccustomed to it, can be a very real and painful thing. Sometimes it gets up and hits you right between the eyes.

Rains march around us these days. "Around" is the right word. For, with the exception of one light shower, from which we collected possibly 15 gallons of water, the rainfall upon Ghost Mountain this summer has consisted of a thin scattering of drops, not sufficient to lay the dust. But sometimes as close as a mile and a half away the thundershowers have dumped literally tons of water. From our thirsty cliffs, we have watched the marching curtains of steely-grey rain blotting in a watery spume over buttes and badlands, filling dry lakes and hurling muddy torrents down blistered washes. But the circling storms have not touched Yaquitepec.

There are few things more spectacular and impressive than a thunderstorm in the desert. Thunderstorms in mid-ocean—especially if seen from a small boat—are awe inspiring. But they lack the weird element of suggestive mystery which only a desert setting of harsh, fantastic mountains and dim, lonely leagues of greasewood and yucca, can give. Somehow these tremendous manifestations of Nature's power—of piled, terrific cloud; of eye-blinding electric flares, ripping the sky from zenith to horizon—convey more than anything else a sense of man's insignificance. The all-blotting thunder is the voice of God; the smoking onrush of the charging rain is the irresistible advance of the armies of the Last Judgment. No one who dwells in desert solitudes and watches the yearly marching and counter-marching of these great electric storms, ever would doubt the existence of a Great Spirit. No humble savage of the wastelands or the mountains ever has such doubts.

We have had several lightning-started fires this summer. None of them has been serious. The most alarming one—quite close to the base of Ghost Mountain—was squelched by a combined attack, with shovels and axes, by the Yaquitepec household, reinforced by a nervy and efficient young lady guest who happened to be visiting us. It was only a small blaze. The lightning had slashed into a dry juniper and a bed of dead, tindery mesquite, but until it was put out it occasioned plenty of apprehension. The wind happened to be just right to bring the blaze, if it once had taken hold, right up the slopes of Ghost Mountain. There are some who think that the desert will not burn. But we have seen too many of these racing, wind-driven conflagrations to have any such comforting illusions.

Yaquitepec has a door bell now. The blame is Rudyard's. He dabbles in most things, including electricity. And the brilliant idea that the house was incomplete without a push-button by the door was his alone. It is somewhat of a shock. You come out of the silence, in the midst of nowhere, and there, on the desert-scorched planking—as incongruous as an alarm clock ticking on the tomb of Eternal Silence—is the nice shiny push button. Who uses it? Who can use it—here? Well, Señor Rudyard uses it. He rings himself in and he rings himself out. The tinny clatter of the little bell wakes the doze of the shadows away back in the house. And Rudyard is mightily content. For the rest, the bell provides some entertainment for the two pet mice who stir from their drowsing and stare curiously at the clattering, vibrant thing. They seem to think that the bell was installed especially for their pleasure.

They are a source of a great deal of fun, those mice. They are

not natives of Ghost Mountain. They are from away over by the little house near the bubbling spring. Just prior to our recent return, after Ghost Mountain was declared no longer part of a navy gunnery range, Rider found them, crouching and shivering beneath an old sack on the porch. They obviously were orphan babies and the three children promptly adopted them and set about saving their lives. Not any too hopefully. For this was the second "adoption." The first had been a case of three baby packrats, whose mother had succumbed to an argument with a snake. But the packrat babies were too young. In spite of loving care and ministrations of milk by means of a medicine dropper they all departed for a happier sphere. Victoria opined that these two mice would "up and die" too. But she was mistaken.

They lived and thrived. Soon they were chasing each other in high spirits round and round their tiny cage. Soon after we returned to Ghost Mountain they outgrew it and Rider toiled mightily fashioning another—with all the improvements. It has a ladder and a feeding platform and a swing and an attached bedroom. Also a teeter-totter—this last the contribution of Rudyard.

The mice really have great times. There has been no attempt to teach them tricks. But they have developed a surprising variety of tricks and games of their own. One of the most spectacular of these is the "back handspring." They will take a short run along the surface of their feed platform, then throw themselves upward and back, just touching the top and far side of the cage in their dizzy circuit, exactly like an aviator looping the loop in a plane. Over and over. They are so fast and expert that it makes one dizzy to watch them. Yaquitepec does not go in for pets much. Here, with freedom all about, there is a deep-rooted family antipathy towards depriving anything of its liberty. But the two orphan mice are an exception. They obviously are not having a bad time.

So, for the present, what with mice and tortoises and electric door bells, Yaquitepec rocks along in contented fashion. And—oh yes—the stamp collection. I had almost forgotten that we had a stamp fanatic in the family. Where he became infected with the germ I do not know. But Rider has caught the disease badly. Stamps! Stamps! The jargon about special issues, about perforations and whatnot. Being of a dull and unimaginative mind I frequently suggest that the stamps might be used, if carefully pasted together, to paper the walls. But Rider snorts. He is going to search the four corners of the globe—and of the U.S.A. His is going to be the finest, most complete collection of stamps that ever was. "Why, don't you know how valuable stamps are? Now once there was a collector who . . ." But what's the use. Anyway he's getting a lot of pleasure out of it.

There is a beautiful, metallic-looking little rock python tucked up in a crevice under a rock on the terrace by the house. All the youngsters are up examining it and trying to reach in gentle fingers to stroke its satiny scales. These little harmless snakes are beautiful, and as gentle as they are pretty. There is not the faintest suggestion of anything sinister about them. And it is hard to see how even a person who dislikes snakes could fail to be captivated by their inoffensive grace and good nature. But, with the snake subject—as in most other things in life—ignorance is the chief cause for hostility.

THE GOLDEN WAY

*To do the big, the gracious thing
In every phase of life
Will every blessing on us bring,
And every virtue ripe.*

*For they who give shall well be given.
And they with vision true
To walk the Path that leads to Heaven
Shall have all good accrue.*

—Tanya South



"One of our favorite camping places is the Joshua Tree national monument," says Catherine Freeman. Here she is making up the bedrolls in a cozy nook among the Joshuas.

So! You'd Like to Camp Out?

By CATHERINE and DICK FREEMAN

MY COUSIN Jack scoffs at such camping luxuries as sleeping bags and air mattresses. Jack and his Dad roll up on the ground in a couple of blankets when they go out. That is their idea of real camping. They regard Dick and me as a couple of softies because our camping outfit includes such extras as pillows and camp stools and a gasoline stove.

We've tried both kinds of camping. For years we slept on the good old hard ground. Oh yes, we slept. And did we wake up in the morning with creaking joints? Well, it wasn't too bad. I'd do it again any time if I had no mattress and couldn't get one. But oh, it's so easing and comfortable to wake up with no creaks or sore spots. Just so pleasant!

Mostly we love to camp in the desert, one of our favorite locations being Hidden valley in Joshua Tree national monument. A delightful place for a campsite is located near the opening to

the valley on the opposite side of the road behind a large rock. A great piñon pine protects the site and gives a satisfying amount of privacy as well as delightful fragrance.

One thing a desert camper always should consider, too, is wind protection. Any time a good stiff wind may come up, especially in spring, and with a clatter and rattle away go your possessions—if you haven't chosen a protected spot. Well, this is just the right spot, secluded and sheltered.

With great care we level off the space where we are going to lay our beds, so no stones or bunches of grass will reach up and punch us in the night. If there is a slight grade we adjust the beds so our heads will be up and the feet down. Next we lay down our well-used waterproof ground cloth. After arranging our sleeping bags on the ground—not on cots, unless you want to be cold—we often put up some kind of a windbreak. The top



By storing the bedrolls and personal luggage on a rack on top the car, and food in the trunk-locker, six people can be accommodated without crowding. Photo taken in Oak Creek canyon, Arizona.

of the bedroll usually can be tied up to do the trick. It just isn't much fun to have even a small breeze blowing down your neck most of the night.

Location of the bed site on the desert should be considered also with regard to freaky weather conditions. Flash floods are occasional in most of the deserts. Soft sandy washes are questionable as good sleeping localities. On one of our trips some other members of the party apparently were ignorant of this possibility. In the middle of the night a flash flood came down the wash and several of the sleepers started to float away in their bags. Fortunately, the waters rose only eight or nine inches. The victims were rescued without too much harm being done, but it might have been serious. Land a little higher is preferable though often not so soft and sandy.

Then, of course, another important thing is to locate the stove with as much protection as possible from the wind. Some campers use just a grate, or a wood burning camp stove, such as is used by our good friends the Russell Hubbards. Regular desert rats they are! But we'll take our gasoline stove, 22 years old but always dependable, and with an adjustable shelf back of the burners. Three sides lift up about this shelf acting as a wind-break for the burners and the cooking utensils on the shelf. You can't get that kind with the shelf any more, so we keep our antique.

The advantages of a gasoline stove are manifold. As a trailer

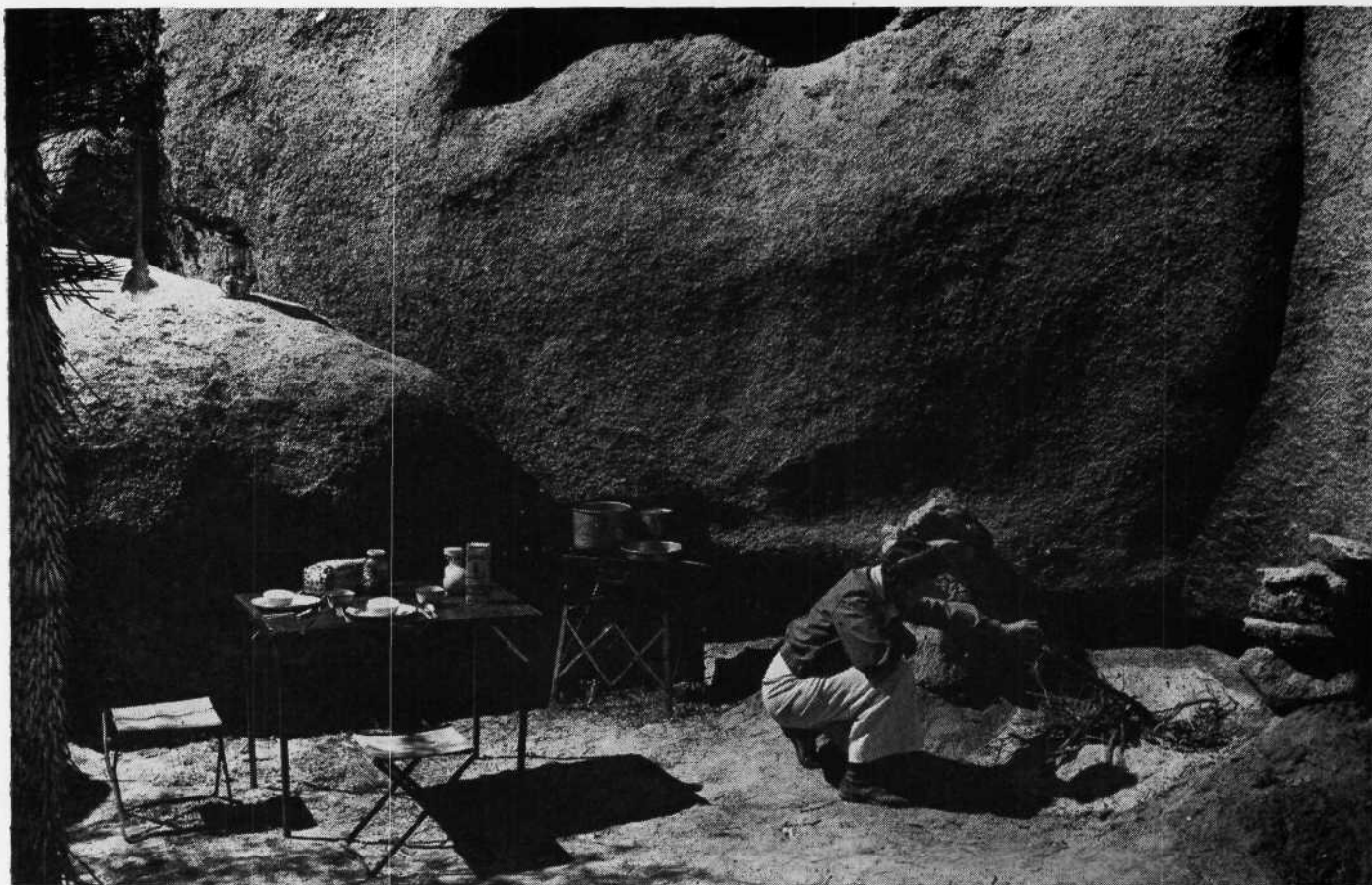
furnishes privacy in too populous areas, so a gasoline stove furnishes fire where no wood is to be found. Then think of the soot-covered pots and pans over a grate! That's another thing we used to do and are glad we don't have to do any more. Gas flame burns clean and leaves the cooking utensils sootless. And did you ever find the wind blowing away from you when you were stirring some food over an open fire? No, it's always right in your eyes. A gasoline stove for us!

For cleanliness and ease in preparing meals there is nothing more useful than our lightweight folding table which can be put away in a minimum space. And although we often sit on the ground and rocks, we also carry camp stools which are convenient and restful.

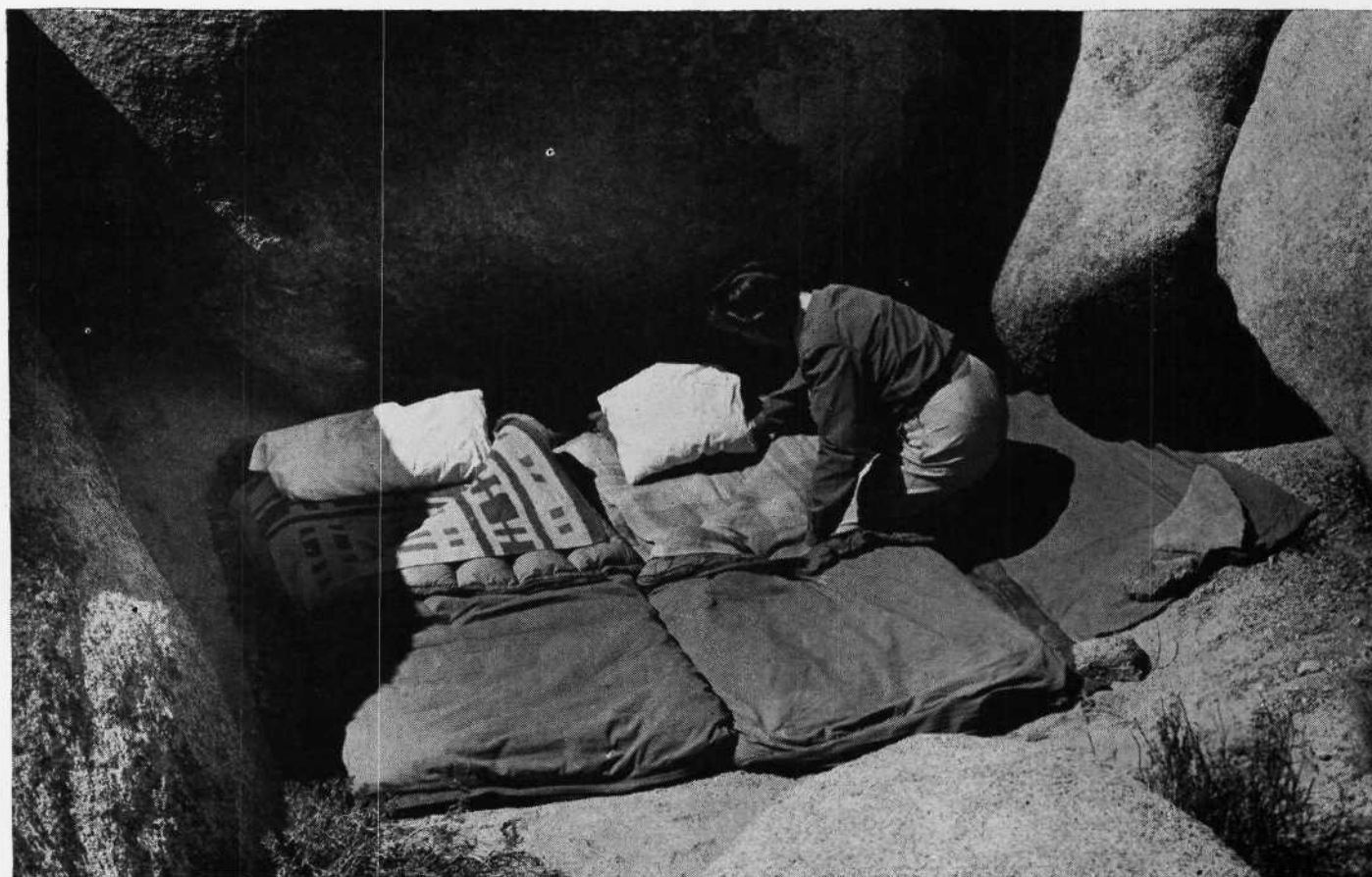
In our utensil box we have a nesting kit of aluminum ware consisting of a frying pan, two kettles, and dishes enough for six people as well as a coffee pot, cups and silverware. For water we carry four two-gallon canteens which will furnish enough water for a week-end trip for five or six people even at a dry camp.

Many times we have to make camp in the dark, so we carry also a gasoline lantern. Flashlights are essential but never can take the place of a bright steady lamp which can be placed where most needed.

To some, perhaps most people, the food is the important item. Just be careful in selecting your menu not to choose foods



Amid granite boulders in Joshua Tree national monument. This little cove is nearly surrounded by windbreak rocks. Catherine is starting the campfire where heat from the rock wall will be reflected to warm the entire campsite. Below—Perfect shelter for the sleeping bags among the boulders of Joshua Tree national monument.





It's an antique stove, but furnishes fire where there is no wood, prevents soot-covered utensils—and there's no smoke to blow into your eyes!

which take a long time to cook or which require baking. That ordinarily means extra equipment and much more time. And after all, what does one go to the desert for? Just to eat?

Grapefruit, coffee and toast, bacon and eggs make a hearty tasty breakfast. Raisin crackers, with a generous square of cheese, a few dates or dried figs, an orange, and perhaps a square of chocolate make a nourishing snack for lunch. Then in the evening back at camp we settle ourselves for a good hot meal. Nothing warms one up better than some good hot soup, canned preferred. A fresh green salad, a canned vegetable of some kind, either canned fish or meat, or perhaps beans, help to take off the chill of the approaching night. Canned fruit is convenient and good for desserts.

When we can, we locate our camp near boulders at the base of a cliff where the rock wall will reflect the heat of our campfire back into our camp where it will do the most good. Locations like this are easy to find in Joshua Tree national monument where immense rock piles extend in every direction. A few stones or slabs of rock piled up on each side of the campfire to form retaining walls with the granite cliff behind, make an excellent fireplace. Desert wood does give such a tangy scent to the air, that even though we may not need the heat, we like to build a fire for its fragrance. Old dry wood and brush is quite plentiful near Hidden valley, and wind or cold has a hard time diminishing the cheerfulness of a good roaring blaze.

To carry our baggage Dick has built a luggage rack to fit on top of the car to hold the light bulky equipment such as sleeping bags. This makes more room inside the car and saves tying the equipment on fenders and other insecure places outside the

car. Some people use a trailer to haul the extra luggage, but we prefer the rack on top which enables us to get into more inaccessible places than if we were pulling a trailer. A good waterproof tarp well roped down protects the equipment from rain or dust. We then can carry as many as six people comfortably. Of course the food and commissary equipment fits very nicely into the trunk.

While this is de luxe camping, it's lots of fun and the little conveniences prevent camp duties from becoming burdensome. But no matter how one travels, it's great to be out with nature and away from the turmoil of a city. If you haven't camped out on the desert, try it sometime. Take our word for it, you're in for some real honest-to-goodness enjoyment.

ARIZONA'S PETRIFIED FOREST YIELDS BONES OF PREHISTORIC ANIMALS

An expedition in search of extinct reptiles and amphibians that lived in Arizona some 160 to 200 million years ago explored Triassic sediments of Petrified Forest national monument during July and August of this year. Leader was Dr. Edwin H. Colbert, author of *The Dinosaur Book*, curator of fossil reptiles, amphibians and fishes at American Museum of Natural History and professor of vertebrate paleontology at Columbia University. This is planned as first of a series, conducted by the museum and university, to extend over several years.

Expedition collected several fine phytosaurs, crocodile-like animals with nostrils on top of the head. Also found were fossil bones of giant amphibians, related to the present salamanders.

HERE AND THERE...on the Desert

ARIZONA

They Like Their Feuds . . .

TOMBSTONE—What started out to be a peaceful community program to celebrate final payment of the town's bonded indebtedness, completion of 33 blocks of paving and christening of new fire truck, August 3, had turned into rip-roaring big-time spree when the smoke cleared away from the O. K. corral, setting for the famous Earp-Clanton gun battle of 1881. Re-enactment of the wild one-minute battle, in which three men lost their lives, was termed by witnesses one of the best historical portrayals ever given. It was such a success that sponsoring American Legion post is making tentative plans to stage the feud again on its 65th anniversary—October 26—as a preliminary to building up possibilities to include in revival of Helldorado.

They Wanted Rain—and got it . . .

PHOENIX—August 3, two days after announcement of serious consequences as result of drouth in Salt River valley, residents were busy cleaning wreckage left in wake of thunderstorms and wind which swept the area, causing heavy damage. Hardest hit was Phoenix, where 1.09 inches rain fell in about one hour, accompanied by hail and 52-mile-an-hour wind which ripped off roofs, overturned trailers, and put out of order power and telephone lines. More rain fell over the state in mid-August, and by August 22 L. R. "Cozy" McSparron of Thunderbird trading post at Chinle reported water flowing four feet deep through Canyon de Chelly.

It's Free—If You're Old Enough . . .

PHOENIX—Arizona pioneers, according to recent ruling of attorney general, will be granted complimentary deer and turkey hunting permits. Persons 70 years old who have lived in the state 25 years are eligible.

Hollywood Does Make-up Job . . .

COTTONWOOD—Since 1876 this town has been known as Cottonwood—but no more. Paramount pictures moved in and did the town over in preparation for shooting of *Desert Town*. Chuckawalla is town's new name. The Purple Sage Bar now thrives where once Rusty's Roundup cheered local citizens; Chuckawalla Emporium has supplanted the Cottonwood drug—and other firms have undergone like transformations.

May Enlarge National Monument . . .

CAMP VERDE—Addition of 183 acres to Montezuma Castle national monument, north of here, was "virtually assured," secretary of interior Krug announced in August. Included in addition is the "geologically and archeologically important" Montezuma well, a large sink hole 470 feet in diameter with an estimated 800 foot depth of water. Cliff dwellings, dating from 1200 to 1400 A. D., are situated in the inner walls of the well above the water line and on top of the south wall. Other features are slab-covered graves and a prehistoric irrigation canal.

Mayor Val Kimbrough, subject of personality sketch in May, 1946, issue of *Desert*, is featured in "Unusual Occupations" film in series produced by Paramount pictures.

THE HOTEL AT THE PALMS

FIREPLACE—
ADOBES

ALL SPORTS

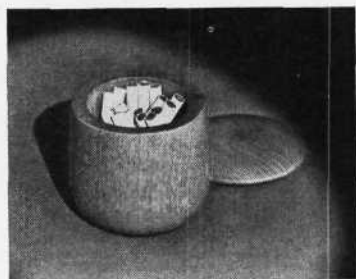
OPEN
ALL YEAR

Gateway to Joshua Tree Monument

ROBT. VAN LAHR, Mgr.

For reservations write or call at
29 Palms Inn, Twentynine Palms, Calif.
or Call any Travel Bureau or Automobile Club

**29 PALMS
INN**



HERE'S REAL ELEGANCE

IN A HANDMADE

Cigarette Box

Useful — Smart — Decorative

Fashioned from beautiful Honduras Mahogany, carefully styled to the tempo and comfort of Western living, this Cigarette or Utility Box will add a note of charm to any home. You will admire its delicate grain, its natural rose-tan color, its soft, velvety texture. For those who appreciate the finer things, this is the gift that will please. Diameter 3 3/4 inches, height 4 inches.

Price \$7.00 Postpaid

LEMURIAN CRAFTS — RAMONA, CALIFORNIA

Write for "Art in Woods" Folder



MUY BUENO! Imported Wool. MEXICAN SWAGGER JACKET

Exquisitely embroidered jackets from Old Mexico, assure alluring appeal for sports, campus, class, or office wear. Never two embroidery designs alike. Fronts also embroidered and two ample patch pockets. Retail \$27.50 and up. Sizes 10 through 18. Variety color choices: white, red, blue, green, yellow. Give dress size, height, and second color choice. Order by mail, enclosing **\$19.47** Check or Money Order

"Mother and Daughter Alike" Jackets \$29.47.

MAIL ORDER TO

LOS AMIGOS

Dept. F, 222 Hoover St., San Antonio, Texas

THE DESERT TRADING POST

Classified advertising in this section costs 7 cents a word, \$1.00 minimum per issue

MISCELLANEOUS

JEWELRY MAKING and repairing taught at home. Easily illustrated course covers custom and production jewelry manufacture, goldsmithing, stone-setting, gem identification, repairing, etc. New catalog free. **THE GEM-CRAFTERS**, Dept. F., Kalispell, Montana.

HAND WROUGHT COPPER, in all types of metal arts for the home. Many desert gems cut and polished or rough. Inlays for the fireplace and barbecue. Send for a list of our special items. Valley Crafts Shop, 14135 Oxnard St., Van Nuys, Calif.

CACTI AND SUCCULENTS—From the deserts of the world. Don-Rita brand. By appointment only. Write us your needs and we will try to help you. Michael-Donnelly Cacti Gardens, 334 Lowell St., Daly City, Calif.

COMMERCIAL LAPPING and Polishing on flat surfaces. Finishing of bookends and polished rocks for fireplaces a specialty. Send for estimate. Joseph R. Mathieu, 1230 1/2 Boyle Ave., Rt. 1, Box 841, Fontana, Calif.

FOSSILS—Geological supplies, Geiger counters, thin sections, picks, hammers, etc. Omaha Scientific Supply Co., Box 1750, Omaha 4, Nebraska.

INDIAN GOODS

INDIAN RELICS: 4 very fine ancient Indian arrowheads \$1.00. 4 very fine bird arrowheads \$1.00. 10 nice perfect arrowheads \$1.00. Stone tomahawk \$1.00. 2 flint skinning knives \$1.00. 10 arrowheads from 10 different states \$1.00. 10 arrowheads of 10 different materials \$1.00. 2 nice spearheads \$1.00. 4 small spearheads \$1.00. 5 stone net sinkers \$1.00. 5 stone line sinkers \$1.00. 2 fine flint chisels \$1.00. 4 finely made duck bill scrapers \$1.00. 10 stemmed scrapers \$1.00. 5 rare round hide scrapers \$1.00. 5 small finely made knife blades \$1.00. 2 stemmed hoes \$1.00. 4 fine drills \$1.00. 5 fine awls \$1.00. Rare ceremonial flint \$1.00. 4 sawedged arrowheads \$1.00. 4 odd shaped arrowheads \$1.00. 4 fine drill pointed arrowheads \$1.00. All of the above 23 offers for \$20.00. Fine Stone Celts or ungrooved Axes, 50c, 75c, \$1.00, \$1.50, \$2.00 each according to size. 100 assorted Sea Shells \$10.00. Location given. 20 slightly damaged arrowheads of good grade \$1.00. 100 damaged arrowheads \$3.00. List free. Lear's, Box 569, Galveston, Texas.

WE ARE AGAIN RECEIVING real hand-hammered Indian jewelry from the reservation all made by top silversmiths. For our rock customers we have bought another collection of rock, making this one of the largest collections of rocks and minerals in this part of the country. Our collection of rugs, baskets and jewelry is still large despite the shortage. Come in and see us. Daniels Indian Trading Post, 40' W. Foothill Blvd., Fontana, Calif.

FOR SALE: 62 genuine Indian baskets in good condition. They are old and authentic, part of collection purchased last fall in California. Will sell as collection only. J. D. Pyatt, Trenton, Missouri.

GENUINE ALASKA native products—Beaded moccasins, Dolls, Carved ivory, etc. Northwest Indian Novelties, 2186 N. W. Glisan, Portland 10, Oregon.

INDIAN ARTIFACTS. Arrows, Spears. No Catalog. Write Herbert Lewis, Builder of fine Indian collections, Box 4, Strafford, Mo.

WANTED TO BUY: Two or three fine specimens of Pomo baskets entirely covered on outside with feathers. Also one Yaqui feathered sun basket. J. D. Pyatt, Trenton, Missouri.

INDIAN MOCCASINS, hand made, of Elk and Reindeer leathers. Colors White, Red, Black, Brown, Brown Suede. Lambskin innersoles. Sizes 3 to 10 adult. Price postpaid \$5.50. State size and color when ordering. Also entire Western leather line, including beaded belts. Dealer inquiries invited. Buy your Christmas gifts from "Will-Kraft—America's Most Beautiful Leather." Address, Will-Kraft Industries, 4416 Georgia Street, San Diego 3, California.

BOOKS — MAGAZINES

PAN SOME GOLD in those Desert gulches while on that rock hunting trip, if you learn how you can. Beginners book of instructions, 160 pages, and three large blueprints on hand equipment, postpaid \$3.00. Free booklet on the HOW of Panning Gold and list of mining books and supplies, sent on request. Old Prospector, Box 21R87, Dutch Flat, Cal.

BARGAINS. 100 assorted pocket mysteries \$5.00 postpaid. 100 assorted comics \$3.00 postpaid. 50 assorted novels, cloth, \$5.00 postpaid. Money with order. A to Z Book Shop, 618 S. Figueroa St., Los Angeles 14, Calif.

DEALER & COLLECTOR: World-wide Firearms publication. \$1.00 yearly; Foreign \$2.00. Dealer & Collector, 71HR, Flushing, New York.

CAMP AND TRAIL INCIDENTS OF PIONEER LIFE, by W. Iven Lively. A desert book by a desert author, who has lived for fifty years in the Southwest. It has the real tang of the Desert. If you like poetry, you will like it; if you do not like poetry you will read it and forget that it is poetry as you become absorbed in its narrative and descriptive thrills. \$1.50 postpaid. Address W. I. Lively, Route 6, Box 1111, Phoenix, Ariz.

BOOKFINDERS! (Scarce, out-of-print, unusual books). Supplied promptly. Send wants. Clifton, Box 1377d, Beverly Hills, Calif.

ARIZONA HIGHWAYS, Deserts, National Geographics, other magazines, bought, sold, traded. John Wesley Davis, 1611 1/2 Donaldson St., Los Angeles 26, Calif.

BOOKS OF THE SOUTHWEST. For outstanding titles on the desert country—Travel, History, Desert Plants and Animals, Gems and Minerals, Indians, Juvenile — write Desert Crafts Shop, 636 State St., El Centro, Calif. Free catalog.

ENJOY THE GREAT OUTDOORS: Learn wildcraft, woodcraft, Indiancraft. By experts. Articles on outdoor living. Hunting, fishing, camping, trapping. \$1.00 per year, 35c copy. Subscribe today: Wildcrafters World, Rt. 2, Lawrenceburg, Ky.

DESERT MAGAZINES for sale, 9 years, \$75, prepaid. John Wesley Davis, 1611 1/2 Donaldson St., Los Angeles 26, California.

Some of Grand Canyon Sold . . .

GRAND CANYON—Only privately owned property on rim of Grand Canyon was sold in August by its original owner, Daniel L. Hogan, 80-year-old Arizona pioneer. Purchaser is Mrs. Madeleine Jacobs of Phoenix, widely known cattle-woman, who it was reported plans to build a three story rustic lodge on the property. New tourist center will be about 1 1/4 miles west of Grand Canyon village, on west rim adjoining Powell Point.

Colored motion pictures of Grand Canyon were obtained in August to be used by Burton Holmes, lecturer, traveler and motion picture travelog commentator. Photographers were Capt. Thayer Soule and Joseph Franklin.

CALIFORNIA

What Is It? . . .

MOJAVE — Employees in administration building at Mojave naval air station want to know what kind of a killer-spider they've captured. One of the navy personnel caught (what everyone thought) was a baby tarantula—light brown, with eight legs and sharp pincers. A black widow spider was caught alive and placed in the jar with the "baby," which proceeded to clip off the spider's legs then calmly devour it. Later in the afternoon another black widow was placed in the jar, and again the poisonous black widow met defeat, but this time the unknown didn't eat his victim, his appetite apparently having been satisfied.

Blythe Air Base is Surplus . . .

BLYTHE—Huge army airbase here, once staffed by 6000 men and several hundred civilian employees, was declared surplus as of July 30. Base had been on a standby inactive basis for more than a year. On the base are more than 500 buildings, including two hangars, shop building, fire halls, control tower, theater, 300-bed hospital. To cover the base is a system of 29 miles of paved highways. Opened in 1942 as light bomber base, it later served as a base for B-17s and B-24s, and won reputation as world's healthiest airbase.

LIVESTOCK

DESERT PETS of all kinds, wild and tame. Grail Fuller Ranch, Daggett, Calif., Phone 3489.

KARAKULS. Producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 Place, Maywood, California.

REAL ESTATE

For Imperial Valley Farms—

W. E. HANCOCK

"The Farm Land Man"

Since 1914

EL CENTRO — — — CALIFORNIA

Stay Out of Washes . . .

BLYTHE — Moral of many a desert story is: Don't get caught in a wash during a cloudburst. Two local men, Ed Kelly, FSA supervisor, and Horace Miller, rancher, will remember that for a long time. While driving in a 10-mile box canyon on their return from a business trip to the Bill Williams river area, Arizona, they encountered a cloudburst. After driving about three miles they were stopped by a wall of water some three feet high, which hit their car head-on. Water was so swift they thought it safer to stay in the car. Instead of falling, flood continued to rise, a large mesquite lodged against the radiator, the car was washed backwards and turned around. It was then washed down the canyon for more than a mile amid uprooted trees, large boulders and debris. When water rose as high as the steering wheel, the men climbed on top the car until it became wedged between two boulders and a tree, then took refuge on a jutting rock island for several hours. When water had dropped to about two feet they waded back to the Leivas ranch. It took three men the entire next day to dig out the car and truck it to Blythe, three days to disassemble the car to remove the sand.

Mojave Cloudbursts Destructive . . .

BISHOP—Cloudbursts at end of July and early August caused damages to U. S. Vanadium properties in Pine Creek in excess of \$100,000, not including almost total loss of personal and household effects of employees. It was announced that 15 homes were totally destroyed, and that 14 damaged houses will be moved and rebuilt.



For Imperial Valley and
Desert Information

and

SHELL PRODUCTS

STOP AT

COLLINGS & WAGNER
AUTHORIZED SHELL DEALERS

U. S. 99

Imperial, California

NON-RATIONED . . .

**Basketball,
Bowling,
Baseball
SHOES**

VAN DEGRIFT'S

717 W. 7th Street
LOS ANGELES, CALIFORNIA

Build Snow Survey Station . . .

INDEPENDENCE—Construction of a cabin at Big Whitney Meadows to be occupied by snow surveyors was started late in August. Project will facilitate snow measurements on upper slopes of Inyo national forest where much of the water flowing into the Kern river drainage falls as snow during winter.

Power Line to Reduce Blackouts . . .

BLYTHE—It was announced by bureau of reclamation engineers in August that bureau had just been given authority and money allocated to begin construction of power transmission line from Parker dam to El Centro via Blythe—a line which would greatly reduce power blackouts due to storms. It was understood congress appropriated \$250,000 for the line and substation, which was expected to be completed in six months from starting date.

Lightning Fires 350 Palms . . .

PALM SPRINGS—A fire, which was reported as ignited by lightning August 11 burned about 350 of the stately Washingtonia palms in upper Palm canyon. Blaze, which started about 5 p. m. was not extinguished by firefighters until 4 p. m. the next day.

Monument Roads Poor . . .

TWENTYNINE PALMS—Damage to roads in Joshua Tree national monument, due to summer storms, has left them "mainly in poor shape," according to custodian Jim Cole. Completion of reconditioning work depends upon purchasing certain types of equipment now difficult to secure.

Hot Springs Need "Keeper" . . .

BISHOP—Resolution urging that Tecopa Hot springs in Death Valley be included in state park system was introduced in special session of state legislature July 24 by Senator Charles Brown of Shoshone. The springs, according to reports, have been in need of more supervision to guarantee better sanitary conditions. Under state park system area would have caretaker and a small charge would be made for bathing and other services.

More Schooling for Indians . . .

RIVERSIDE—Among increased facilities for education of Navajo children this year is wider scope of Sherman Institute, which arranged to accommodate 200 Navajo boys and girls in September. The Riverside school heretofore has been a high school but students in elementary grades, from age of 12 upward were accepted this year.

First Coachella valley dates for 1946 were reported picked by C. D. Roberts from his two acres of Khadrawi trees at 100 Palms on August 12, just 11 days ahead of first picking last year.

SMALL CHANGE



Ever since the days of yore — and even before that — winter's approach has heralded a switch from the short of it to the long of it.

The apparel-shifting period is also the signal for another change:

Wise motorists discard the heavier summer grade oil and replace it with a lighter winter grade.



However, motor oil should not only be changed, seasonally speaking — it should also be changed, figuratively speaking. And the figure we're speaking of is 1,000.

An oil change every thousand miles is essential to a motor's well being.



You heard about the fellow who was warned to watch his diet or he'd ruin his stomach.

The fellow replied, "If I ruin my stomach I'll buy a double-breasted coat and nobody'll notice it."



Sometimes a motorist works on that theory. But just because lubricant is tucked out of sight in the bottom of a motor, it shouldn't be tucked out of mind, too.

Every engine needs regular applications of soothing syrup to help prevent internal disorders.



Shell Service Station Men point out that the cost of safe lubrication is small change, compared with repair bills that engine failure can create.

So motorists ought to change the grade of their motor oil as the season demands. They should also drain, flush and refill with Golden Shell Motor Oil every thousand miles.

— BUD LANDIS

For Nice Things . . .

- INFANTS' AND CHILDREN'S WEAR
- LADIES' READY-TO-WEAR
- MEN'S FURNISHINGS
- FINE LINENS

CUSTER'S

206 W. TENTH STREET PHONE 246
LANCASTER, CALIFORNIA
THE HEART OF ANTELOPE VALLEY
RILLA CUSTER GALEN CUSTER

SCENIC GUIDES . . .

The most complete travel guides ever attempted. Attractive covers in full color. Descriptions, pictures and maps to lead you to the many scenic wonders of the West.

Guides to Northern California and Nevada are available now. More to come soon.

PRICE \$1.00 EACH

Address — Scenic Guides
Box 288 Susanville, California

By BARRY STORM

PRACTICAL PROSPECTING

Electronic Technique

When ore can no longer be found "in sight" prospectors must adopt scientific methods for locating unseen mineral.

Such methods make up the science of geophysical prospecting and with the full development of electronic instruments the obstacles of prohibitive cost and technical training have been eliminated for the lone prospector.

Such electronic locators induce, measure and automatically record the vast differences in the physical property of electric conductivity between metal-bearing rock and barren surrounding masses, and have proved particularly valuable for locating unseen mineralized areas, high-grade shoots and pockets, hidden placer channels, and even buried treasures, if properly handled by proved use techniques.

What these use methods are, how they are utilized with inexpensive, portable instruments offering depth-finding ranges up to 250 feet, are explained in detail with photographs and charts.

"Practical Prospecting" is an invaluable pocket-sized manual that should be in every prospector's kit. The price is \$1 postpaid from

SOUTHWEST PUBLISHING CO.

P. O. Box 502 Phoenix, Arizona

WATER DIVINING . . .

Easy to acquire the art of Water Divining by following simple directions in this practical book of instructions. \$1.50 postpaid. **PALMER PUBLICATIONS, Box 643, Pasadena, California.**

NOW READY . . .

"Lost Mines of the Old West" by Howard D. Clark in collaboration with Ray Hetherington. Original pen and ink sketches by Cedric W. Windas. Featuring the lost "Peg Leg" along with 24 other famous lost mine stories. See your nearest book dealer or order direct from distributor.

Price 50c at Dealers—60c by Mail

WESTERN BOOK & MAGAZINE SHOP
331 1/2 So. Hill St. Los Angeles 13, Calif.

NEVADA

New Park Plans Announced . . .

BOULDER CITY—Multimillion dollar plans for development of 500,000 acres of scenic wonderland, which will give the nation another national park and a new all-year vacation resort along the 550-mile shoreline of Lake Mead at Boulder dam, recently have been announced. Department of interior has approved organization plans and has granted property rights to Grand Canyon-Boulder Dam Tours, Inc., headed by a group including Everett N. Crosby, brother of Bing Crosby and manager of various Crosby enterprises. In addition to building picturesque camps and lodges at Overton, Pierce's Ferry and other sites, it is planned to open at least two scenic tours, one into Valley of Fire, and the other a boat trip from Lake Mead into Grand Canyon. Main resort project is to be located on southeastern Nevada side, where the desert meets the shining waters of Mead on a long sandy beach.

Urges Good Roads to Caves . . .

PIOCHE—Senator Pat McCarran in August was conferring with officials relative to improving roads to give easy access to Lehman caves. Expressing dissatisfaction with previous publicity given the caves, McCarran said, "I intend to take immediate steps to have the authority in charge put out proper publication so that the tourist public will know and recognize this great national monument." Governor Vail Pittman, agreeing with the senator's views, predicted that with improved roads, Lehman caves will become a main attraction.

Plant to Produce Oxygen . . .

RENO—Operation of a new \$100,000 industry here was scheduled to get underway in mid-August when Sierra Oxygen company plant was to reach full production, according to T. M. Kean and Peter Peff, associates. Plant will manufacture oxygen and acetylene.

Building Bricks While-You-Wait . . .

LAS VEGAS—Manufacture of building materials is latest industry expected here, with announcement that a \$1,000,000 gypsum company, which will calcine and fabricate Nevada gypsum deposits, has been formed and plans to start production about October 1. Firm, known as Alpha Gypsum company, includes Calvin Cory, local attorney; George Hauptman, Los Angeles, and M. A. Hougen, Los Angeles mining man. Hougen said firm plans manufacture of wallboards, plaster, stucco, bricks and other building materials by a new process at reduced costs. He said new process eliminated firing of bricks, which will be ready for building within an hour after coming out of the machine, and that a nail driven into the plaster and stucco will not chip it.

Cave Development Planned . . .

PIOCHE—Strikingly beautiful Whipple cave, located between Hiko and Ely, is destined to be an important tourist attraction, according to plans of Nevada Scenic Caves, Inc., owner. Plans call for running a tunnel about 300 feet in order to gain entrance to cave on the level. At present difficulty and dangers of entering through narrow cleft in rocks about 65 feet deep prevent all but a few hardy adventurers from seeing the natural wonders. Alex Nibley, president of the company, reports there are plans for a townsite nearby.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933.

Of The Desert Magazine published monthly at El Centro, California, for October, 1946.

STATE OF CALIFORNIA } ss.
COUNTY OF IMPERIAL }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Bess Stacy, who, having been duly sworn according to law, deposes and says that she is the Business Manager of the Desert Magazine and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher, Desert Press, Inc., El Centro, California.

Editor, Randall Henderson, El Centro, California.

Managing Editor, Randall Henderson, El Centro, California.

Business Manager, Bess Stacy, El Centro, California.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Desert Press, Inc., El Centro, California.

Randall Henderson, El Centro, California.

Lucile Harris, El Centro, California.

Bess Stacy, El Centro, California.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest, direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is (This information is required from daily publications only.)

(SEAL)

BESS STACY

Sworn to and subscribed before me this 19th day of August, 1946.

M. W. WASHBURN

(My commission expires May 14, 1948.)

NEW MEXICO

Fishing Tough on Boatmen . . .

TAOS—Fishing from rubber boats on the Rio Grande proved more thrilling than Ed A. Farmer and Frank Highleyman had planned. The two men, consulting engineers at Los Alamos, took off Friday afternoon, August 2, from John Dunn's bridge, planning to fish between there and Taos Junction bridge, their families to meet them there next evening. When the men failed to arrive, their families searched for them, then appealed to authorities Sunday morning. Sheriff's posse next day located the men, separated from each other by about a mile. Farmer, located first, had to be carried up steep trail from river. Although the craft were seaworthy in the turbulent water, constant slashing against walls of the canyon and the boulders protruding in the middle of the stream proved too much for them. The men succeeded in beaching the rafts, but their food and blankets were so water soaked they were of little comfort. In 1938 two men started from Alamosa, Colorado, in a specially constructed boat to navigate the river to its mouth, but their boat capsized near Black canyon. One man survived, but the other's body was not found until 1940.

Indian Vets Star in Ceremonial . . .

GALLUP—With more than 3000 spectators and 3000 Indians in the arena, 25th annual Inter-Tribal Indian Ceremonial held here in August proved most colorful and vigorous festival of recent years. A year before, many of the young men were either on battlefronts or in war plants; this year they were prominent in nearly all dance teams entered by the many Southwest tribes. Humor, dramatic pantomime and beauty of costume and routine were well balanced throughout the programs.

Fireworks in New Mexico . . .

WHITE SANDS PROVING GROUNDS—A German V-2 rocket, tent to be launched here by army experts, wobbled for four miles through the stratosphere August 15, then plunged to earth in an explosion of orange flame which destroyed all its instruments. This was the second of ten V-2 rockets launched thus far to explode in falling, "an unpredictable but not unusual experience in German practice caused by a tendency of over-control," according to Lt. Col. Harold R. Turner, commanding officer of White Sands. "This phenomenon causes enormous stresses in the tail fins, two of which were ruptured almost simultaneously with the operation of the safety cutoff system." In contrast to one launched earlier in the month, which ascended 104 miles into the air and landed with instruments intact 69 miles from the launching site, the "over-corrected" rocket fell 1¾ miles away. An 11th German rocket was to be launched August 22.

"Let's see the Indians—quick!" . . .

GALLUP—A party of eastern tourists came into chamber of commerce hogan in August, and inquired of Secretary Frank H. Holmes: "Where can we find a guide to show us the reservation?" Just then Dick Mattox walked in. "Here's just the man you're looking for," Holmes said. "Mattox knows the reservation like no one else. His fee is \$10 a day." "Oh, we didn't expect to put in a full day at it," said spokesman for the tourists. "We thought we'd have a look around before dinner time." It was then about 3:30 p. m. Just in case you didn't know—the Navajo reservation covers 16,000,000 acres—just an afternoon's spin.

Pine Nut Crop is Scant . . .

ALBUQUERQUE—Piñon nut crop, on basis of federal surveys, will be generally poor this year. Of about 7,000,000 acres of piñon pine trees examined by officials of 10 national forests, two Indian reservations and nine soil conservation areas in Arizona and New Mexico, only about 1,000,000 acres were reported to be producing good or fair nut crops—one of the important money crops of the Indians.

Excavate Indian Ruin . . .

ALBUQUERQUE—Within 150 feet of the Tijeras canyon highway, 12 miles from Albuquerque, University of New Mexico students this summer excavated a Pueblo Indian ruin which was occupied from 1450 A. D. until a few years before founding of Old Albuquerque, Dr. Paul Reiter, director of the field session has announced. The small pueblo first was discovered about six years ago by Herbert W. Dick, University graduate. Early estimates indicate the ruin has 30-50 rooms, of which 15 have been excavated. Thirteen skeletons have been recovered.

Stove Pipe Wells Hotel

offers you

Comfort and Relaxation in the
Heart of Death Valley.

EUROPEAN PLAN — DINING ROOM
BAR

MODERN ACCOMMODATIONS
HOTEL AND COTTAGES

"The Oasis of Death Valley"

OWEN MONTGOMERY, Manager

LAKE HAVASAU . . .

1000 acres Chemehuevi Valley on California side. Only privately-owned tract of its kind. Ideal climate with a real lake in the desert. Subdividers think of the possibilities or for Dude Ranch. May be purchased on attractive terms.

Contact owner . . .

D. L. WILLIAMS

4566 Round Top Drive Los Angeles 41

DESERT COLOR SLIDES . . .

Gorgeous 35mm color desert slides of Palm Springs, Indio, El Centro, Borrego and Painted Desert area in selected planned picked shots by Hollywood color expert. Series include balanced clear-sharp properly exposed transparencies of Borrego Desert with wild flowers in bloom; Palm Springs, famous Seven Palms, Indio Palms, and spectacular restful views of California Painted Desert between Indio and El Centro. Series of six slides \$2.50—Six slides with Hollywood Professional (third-dimensional-effect) Viewer \$5.00. Immediate delivery by first class mail. Full desert list sent on request.

DESERT COLOR SLIDES

Box 345

Beverly Hills, Calif.

INSIST ON THIS . . .

UIATA

HALLMARK OF GENUINENESS ON
NAVAJO AND PUEBLO SILVER

Only genuine Indian handmade silver Jewelry of good craftsmanship,
sound construction and ornamented with typical Navajo or
Pueblo designs bears this mark.

UIATA

UNITED INDIAN
TRADERS ASSOCIATION

INCORPORATED

ORGANIZED FOR THE PERPETUATION & PROTECTION
OF HANDMADE INDIAN ARTS AND CRAFTS

GALLUP, NEW MEXICO

UTAH

White Throne Climber Rescued . . .

ZION NATIONAL PARK — Roger Clubb, 22, of Denver, was rescued and returned to Zion Lodge August 15 after spending 30 hours on a ledge near top of Great White Throne, a sheer rock peak towering 2500 feet above floor of Zion canyon. Leaving his shoes and water can with his two companions, he climbed as far as possible then discovered he was unable to descend. Park service rescuers spent most of a day driving steel pegs in the rock, finally ascending high enough to throw a rope to the stranded youth. He had been without food, water or sleep. So much tragedy has attended climbing of the peak that authorities discourage such attempts. As far as is known first ascent was made in 1927 by a Pasadena, W. H. W. Evans, who was seriously injured during the descent. First successful ascent was made in October, 1937, by Glen Dawson of Los Angeles, and four companions, all expert mountain climbers.

Start Monument Construction . . .

SALT LAKE CITY—Construction of what is expected to be one of the most impressive monuments in America, marking the spot where Brigham Young uttered the words, "This is the right place; drive on," 99 years ago, after looking over Salt Lake valley, got underway July 24 at mouth of Emigration canyon. At a previous ceremony Gov. Herbert B. Maw set aside the last 36 miles of the Old Mormon trail from Nauvoo, Illinois, together with a park at Henefer and a large tract surrounding the monument site as a state park. Construction of a highway and other improvements to attract tourists are on the program for park development. Heroic size figures of Brigham Young, Heber C. Kimball and Wilford Woodruff, which will surmount the main portion of This Is The Place monument, were in the process of being cast in bronze.

Ortherous Phelps Pratt, 82, last living son of Orson Pratt, one of the first Mormon pioneers to enter Salt Lake valley, died in Salt Lake City July 28.

He Says It's Easy . . .

HITE—Shooting rapids and whirlpools of Colorado river has become simplified recreation for the average vacationist, according to Prof. George O. Bauwens of University of Southern California college of engineering, who with three graduate students recently returned from a 168-mile cruise without getting wet feet. Success of trip was attributed to an 18-foot boat designed by Prof. Bauwens and made in S. C. shops of plywood and flexible rods. It weighs 60 pounds, can be folded to fit into auto luggage compartment, has low center of gravity, inflated cushions to add buoyancy, flexible parts to prevent its breaking in event of a crash. The four unskilled explorers made their own boats at cost of \$35 each and apportioned their food at \$9 per man for the two-week vacation. They took off from Hite, making the trip to Lee's Ferry, Arizona, in 10 days, leisurely camping along sandy beaches of the Colorado and exploring canyons and caves. "Our main object, aside from studying silt deposits, was to prove to ourselves that such an expedition over unexplored areas could be simple," the professor said.

"Unknown" Area Open to Travel . . .

BLANDING—A vast area of hitherto almost inaccessible scenery in San Juan county has been opened to automobile travel with completion of White Canyon road leading from Natural Bridges national monument to Hite, it was announced in mid-August. Road follows pioneer trail blazed by settlers and prospectors in the 1880s and '90s.

Indian Claims Commission Created

SALT LAKE CITY—Three Ute Indians were among representatives of various Indian tribes who watched President Truman sign into law, August 14, legislation creating Indian claims commission. Under new law claims must be filed within five years, commission must pass on them within 10 years and congress then will consider appropriations to pay them. Previously tribes having claims first had to get congress to pass legislation permitting them to file suit in court of claims, a process in which objection of a single congressman has prevented passage. Among claims to be considered by new three-man commission is that of Uintah Utes under Spanish Fork treaty of 1863, in which they surrendered most of the land constituting present state of Utah and retired to their reservation. Although they lived up to the treaty, they claim they never have recovered a dollar of all that was assured them under the treaty.

Mrs. Cecile Dempsey, 87, mother of Jack Dempsey, died August 15 at her home in Murray. Her four children were with her. The family moved to Utah from Manassa, Colorado, 36 years ago, first to Provo, later to Salt Lake City, where Jack started his boxing career.

A TWO MILLION DOLLAR POWER BUSINESS

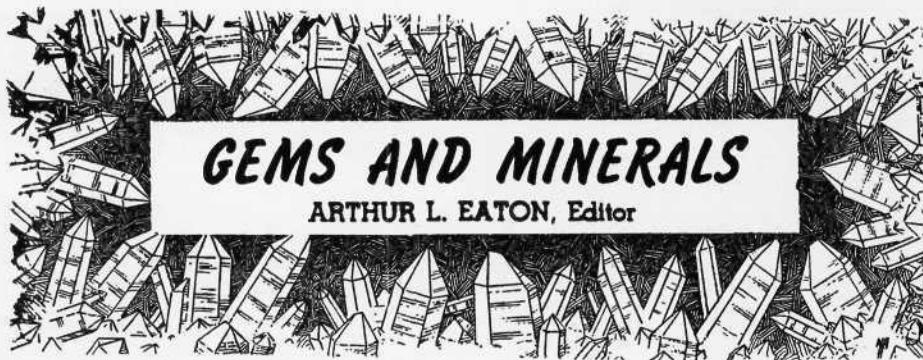
IMPERIAL IRRIGATION DISTRICT'S POWER REVENUE FOR 1945
TOTALED MORE THAN TWO MILLION DOLLARS

TOTAL REVENUE for 1945 was \$2,413,235.40, recorded by the District's power division, an increase of \$284,768.25 over 1944. MORE IMPORTANT is the total of \$827,088.89 IN NET REVENUE as compared to the 1944 total of \$622,697.35—A GAIN of \$204,391.54. . . .

This large increase in power revenue was made possible by greater consumption of electricity, previous elimination of competition, and intelligent business planning which is continuing to provide for expanding power needs of rapidly growing communities.

A decade of successful growth is ample proof that Imperial Irrigation District's Power Program when fully developed will take care of future requirements, as well as it has past needs.





GEMS AND MINERALS

ARTHUR L. EATON, Editor

PLANS FORM FOR FEDERATION MEET AT SANTA BARBARA

Plans for 1947 convention of California Federation of Mineralogical societies already are taking form, according to Prof. Woodhouse whose Santa Barbara society is taking lead as one of the hosts of the next convention.

Tentative program calls for convention opening and registration May 23, 1947; barbecue, dance, auction and other events, May 24, with closing scheduled for 6 p. m. on May 25.

Museum of Natural History in Mission canyon will be used and lunch will be served on the grounds during convention session. Open air exhibits will be arranged in the patio. Each dealer probably will be limited to 36 square feet.

Visitors will have plenty of parking space. As to housing, complete lists of all places available in Santa Barbara will be furnished so members planning to attend can make reservations in advance.

NAVY NAMES NEW DANGER AREA IN MOJAVE DESERT

An area approximately 48 miles long and 36 miles wide designated as Gunnery Range B, and used by long range pilotless aircraft from Pilotless Aircraft unit stationed at naval air station, Mojave, was designated as a danger area July 25 by eleventh naval district.

Northern boundary of area runs along San Bernardino north county line; eastern boundary is on San Bernardino meridian; western boundary runs on a line approximately four miles east of Trona, and southern boundary crosses approximately 13 miles north of Barstow.

All entrances to the area have been posted with warning signs containing legal description of entire range together with a map showing all locations of paths and thoroughfares leading into and across the area.

LAPIDARIES TOLD SECRET OF SUCCESSFUL DOPING

Advice on doping stones was given lapidaries by B. N. Porter in September bulletin of East Bay Mineral society. Here are some of his suggestions.

A good doping stick can be made from dowel pin sticks, which may be purchased at most lumber yards in three foot lengths and cut to five inches or whatever length is desired. Five sixteenths or one half inch dowel is a good size.

A good wax is ordinary letter sealing wax, with about one fourth part of brown flake shellac or ordinary stick shellac, to stiffen it.

The great secret of getting the stone to stick is to know just when it is heated to the proper temperature when it is placed in the wax.

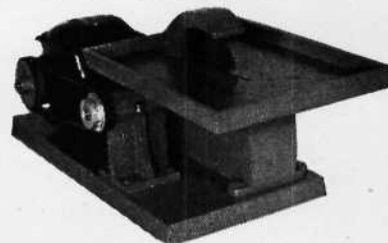
Grasp the stone in your tweezers and pass it gently through the flame, back and forth and notice it sweat as it becomes heated. Now heat it only until this moisture is driven out. Then with your wax warmed at the same time to a point of flowing place the stone in the wax and smooth the wax about it with a moistened finger.

Some stones require more heat than others. Opals should be heated very slowly, and not too much. Wax also should be heated slightly less than for other stones.

It is the water content that forms a sort of film of steam that prevents your wax from sticking to the stone if it has not been heated properly—and that is why stones loosen and pop off.

Minute Notes on Minerals

Calcium, while an element of no importance except in experimental laboratories, is the basic element in four of the ten minerals of the scale of hardness. Selenite, calcium sulphate, is standard hardness 2; calcite, calcium carbonate, hardness 3; fluorite, calcium fluoride, hardness 4; and apatite, calcium phosphate, hardness 5.



6" HIGH-SPEED TRIMMING SAW. All cast metal. No wood. This saw saves time and material. Saw operates at 2000 R.P.M. Priced at \$47.50 without motor, F.O.B., Los Angeles, Calif. This price includes saw-blade, belt and pulley to give you the correct speed. Requires 1/4-horse motor. Shipping weight approximately 60 pounds.

Highland Park Lapidary Supply
1009 Mission St., South Pasadena, Calif.

BLACK ONYX . . .

FINEST QUALITY AND POLISH

In lots of one dozen to 1000 and up.

Same in men's 14K Gold Rings,
\$180 per dozen.

Fancy cuts per order of 2000 stones each size.

Synthetic Rubies, 10x8, Cabochons, oval and blue Spinel.

Tiger Eye and fine Amethyst Cabochons, 10x8, 14x12 in lots.

Finest Belgian Congo Diamond Bortz, \$190 per 100 carats.

Ring Mountings, 14K and setting of your stones in 100 lots.

Also single stones for collectors on approval, such as Andalusite, Emerald, Zircon and many others.

ERNEST MEIER

Church Street Annex Post Office Box 302
NEW YORK 8, N. Y.

October Special . .

ICICLE AGATE . . .

This new agate find looks like icicles or snow-white stalactites hanging in a cave of softly-lighted translucent agate. Beautiful in both slabs and cabochons.

35c PER SQ. IN.

Largest Pieces about 10 sq. in.

FREE GIFT . . .

We are giving a free gift to the first person to sign our guest register at our new home.

Come in and see our new machinery room . . .

RX MACHINES

B & I GEM-MAKERS

G & W SUPREME SAWING ARBORS

G & W GRINDING ARBORS

FELKER BLADES

A. O. MAGNIFIERS

Open Daily 9:30 a. m. to 6:00 p. m.
Sundays 1:00 to 5:00 p. m.

**LONG BEACH
MINERAL & LAPIDARY
SUPPLY CO.**

1850 E. Pacific Coast Hwy.
LONG BEACH 4, CALIFORNIA



HERE ARE THE GIFTS YOU'VE BEEN LOOKING FOR!

Petrified Wood, Moss Agate, Chrysocolla,
Turquoise, Jade and Jasper Jewelry

HAND MADE IN STERLING SILVER

Bracelets, Rings, Necklaces, Earrings
and Brooches

**SPECIALY SELECTED STONES WITH
CHOICE COLORS AND PICTURES**

Write for Folder with Prices
Wholesale and Retail

ELLIOTT'S GEM SHOP

26 Jergins Arcade Long Beach 2, Calif.

Entrance Subway at Ocean and Pine
Open 10 A. M. to 10 P. M. Daily

GEM MART

ADVERTISING RATE
7c a Word — Minimum \$1.00

THE DESERT RATS NEST will reopen with a good supply of minerals, sold under the old guarantee. But I shall cater mainly to facet and fine cabochon cutters. Third Brazilian shipment now in—all first grade gem material. Amethyst, Andalusite, Golden Beryl, Chrysoberyl, Brazilian Almandite, Garnet, Blue and white Topaz. Now in, Ceylon shipment, Gray and gray Star Sapphires, Ceylon Moonstone, will wholesale some. On hand, facet material—Australian Sapphire, Montana Garnet and Sapphire, small Mesa Grande bi-color green and rose Tourmaline. On hand, Finest cabochon Aventurine for stars, star garnets, Star sapphires, Ceylon Moonstone, poor grade Mexican opal, green and golden Beryl, topaz blue Amethyst, Citrine, Tigers Eye, Rutilized Quartz, 3 colors Rutile, tiny blue Tourmalines in Quartz, Sagenite, Sweetwater Agates. Lots of specimens, tell me what you want, no list. Mail address, Geo. W. Chambers, P. O. Box 1123, Encinitas, Calif. Home address, 640 Fourth St., between F & G Sts. Come on down and bring your surf fishing rod.

BARGAIN ASSORTMENT NO. 11—One rock crystal from Brazil. One Apache teardrop—smokey—takes a fine polish. One chunk Nevada Turquoise. One fine chalcedony rose. One chunk Virgin Valley opal. One chunk Mexican turquoise, green. One chunk Arizona chrysocolla. One crystal filled geode. One lovely vanadinite. One slab night blooming cereus. 5 small rough Ceylon sapphires, to facet or for specimens. One chunk variscite, for ring stones, or to polish in slabs. One Montana sapphire. All for \$3.00 plus postage on 5 pounds. Shop location—1400 Hacienda Blvd., La Habra Heights, California. Come by way of Whittier Blvd. from Los Angeles or vicinity, to highway 39, turn north to 1400. From Pasadena or vicinity come by way of Valley Blvd. to highway 39, turn south to shop. You are always welcome, we are open evenings and Sunday. We have thousands of lovely specimens, as well as cutting material. Phone 81707 Whittier exchange. Mailing Address, West Coast Mineral Co., Post Office Box 331, La Habra, Calif.

McSHAN RANCH GEM SHOP open for business. Located 2 miles West Needles, 2 blocks off Highway 66. Special Introductory Offers: Slab assortment, \$5. Bag of specimens for cabinet, flower arrangement, cutting, 2 pounds, \$1. Package of fluorescent rocks, 3 pounds, \$1. We recommend use of Mineralight. Desert Roses, 50c, \$1. Cabochons, \$1 up. Money back guarantees. Postage and 2½% tax extra. Slabs and Cabochons cut. Jewelry made to order. Mineralights, Lapidary Equipment, Indian Jewelry. Write for prices. Mac & Maggie McShan, Box 22, Needles, Calif.

SPECIAL MAIL OFFER: 20 square inches agates, jaspers, petrified woods, etc. (not trimmings). Enough for 50 cabochons. \$2.50 postpaid. Fred's Gem Shop, Hansen, Idaho.

FOR SALE: Montana Moss Agate. Will wholesale in 100 lb. lots at 65c per lb. Artcraft Stone Co., 2866 Colorado Blvd., Eagle Rock, Calif.

NEW—NEW—NEW — Opalized wood in white, orange and a black that will polish out black; beautiful designs; 25c per sq. in. \$2.50 lb. plus postage. Satisfaction guaranteed. M. L. Martin, Box 244-3, Hawthorne, Nevada.

SAWED TEXAS AGATE, Montana moss and other cutting material. Redondo Agate Shop, 219 Hermosa Ave., Redondo Beach, Calif.

SPECTACULAR! Sunset and storm; Multi-colored vein agate from the Palo Verde Mts. containing "cloud streaks on a lavender sky." Slabs 50c up. Uruguayan amethyst specimen clusters \$4.50 up. Golden Tiger Eye. Chatoyant to the nth degree. \$4.50 lb. Christmas! Don't forget the many gifts you can make from 100 pounds of our beautiful Mexican onyx (carbonate) at 15c lb. in 100 lb. lots. Please include approximate postage on all orders. Our store is now open after 6 p. m. every evening and all day Saturday and Sunday for your convenience. Stop in and see San Diego's new rockhounds' rendezvous. Our slogan is "Everything for the amateur lapidary." Located ¼ block south of El Cajon Blvd. on Marlborough Ave. **GEMART'S COMPANY**, 4286 Marlborough, San Diego 5, Calif.

"PERRY DRILL"—New model. Drill your own pendants, beads, buttons, etc., for pleasure or profit. For professionals or amateurs. Drills fast—none better at any price. \$14.00. L. E. Perry, 111 N. Chester, Pasadena 4, Calif.

ARIZONA AGATES: Moss, small beautiful pieces, 85c lb. Lovely Pink banded or solid Blue, 50c lb. All red, dentritic mustard color, or Brecciated JASPERs, 35c lb. All agates in the rough. Minimum order \$1.00. Postage EXTRA. MaryAnn Kasey, Box 230, Prescott, Arizona.

AMATEURS what have you for sale or trade. Am opening lapidary shop and would like to know what you want. Will handle cutting and polishing material, new and used equipment. Correspondence and suggestions welcome. Sgt. Wellborn, Box 454, Paccima, Calif.

BEAUTIFUL PANHANDLE Flint, Amarillo Stone, several colors, stripes and figures. Assorted. Finest cutting. Finishes like agate. Found on an old Indian camp ground. One dollar per pound. Joe H. Green, Box 666, Hereford, Texas.

MAKE OFFER—1" synthetic sapphire, rough, clear. M. J. Hiland, Lansing, Ill.

SUPER GEM WOOD, in the most gorgeous colorings, and unique designs. Ideal for jewelry making. Price \$3.00 per pound, or \$2.50 per pound for 2 or more. Postal order only please. Include State tax 3% and postage. E. S. Bateman, 5108 W. Olga St., Seattle, Wash.

CAN SUPPLY Montana moss agate, agatized wood, jasper, jade and sapphires. The sapphires are small and are put up approximately 75 in a glass vial with two or three Montana rubies included for \$1. Good grade agate \$1 per pound plus postage. Jade in various shades of green \$3 per pound and up. E. A. Wright, 217 Hedden Building, Billings, Montana.

AGATE SLABS ON APPROVAL. Brilliant colors, exquisite patterns, plume, flower and moss. Choice gem quality for jewelry making. End pieces and slabs for outstanding cabinet specimens and colorful transparencies. Send \$10.00 deposit for approval selection and state types desired. Now by the pound to those who will call in person. Mae Duquette, 407 N. Muscatel, San Gabriel, Calif.

GEM CUTTERS! If you haven't a copy of "The Art of Gem Cutting" by Dake and Pearl you still have some wrinkles to learn. You'll save yourself hours of work and many dollars if you have a copy of this book handy. \$1.50 a copy. We also have a new line of faceting equipment—Allan's. Complete unit—laps, faceting head, precision dops—all for \$140. We consider all our equipment the best available. Stop in and see our stock at our new store. Open after 6 p. m. every evening and all day Saturday and Sunday for your convenience. Just ¼ block south of El Cajon Blvd on Marlborough. **GEMART'S COMPANY**, 4286 Marlborough, San Diego 5, Calif.

FOR SALE: Petrified Palm with eyes and petrified cat-tails and other fibers, \$1.00 per pound in small quantities, plus shipping. Maida Langley, Box 331, Needles, California.

HAVE YOUR favorite cabochons mounted in hand-made sterling or 10K gold mountings. Old Prices still in effect. Please order your Christmas work early. Your correspondence invited. K. K. Brown, Beaver, Utah.

FOSSIL SCALES from armoured fish. Diamond shape—natural polish. 25c each, 6 for \$1.00 postpaid. Also crystallized Wyoming wood, a nice specimen \$1.00. C. Earl Napier, For Rock. Historic Knights Ferry, Calif.

SILICIFIED RHYOLITE—Finest gem quality. It's selling on sight. Marvelous colors and patterns. 20c per square inch. Money back guarantee. Cabochon gems, large stock cut from semi-precious stones, suitable for jewelry making. Send for list. W. J. Kane Lapidary, 1651 Waller St., San Francisco 17, Calif.

ARIZONA GEM STONE, now available by the square inch. Arizona Moss Agate, 25c and 35c sq. in., Flower Agate, 35c and 50c sq. in. Arizona Picture Wood, 40c and 60c sq. in. Gem Chrysocolla, some with Malachite, 50c and 75c sq. in. Ends, sawed on one side only, \$2.00 and \$3.00 per lb. Chips, all cuttable, \$1.50 and \$2.00 per lb. Select Chalcedony Roses, real Gem stock, \$4.50 per lb. Amethyst, Faceting material, \$2.50 to \$7.50 per lb. All material listed is Gem quality, specimens on request, and is sold on a satisfaction guaranteed basis. In the rough to personal callers. Sliced material prepaid on orders of \$5.00 or more. C. WALLACE, Mt. Graham Auto Court on U. S. 70, Safford, Arizona.

100 MINERALS and fossils, nice size, \$4.00. 40 small \$1.00 ppd. Bryant's Rockpile, Rt. 2, Lawrenceburg, Ky.

AMAZING BARGAIN—High quality stones. Almandine garnets (Madagascar) \$1.50 ea., Green garnets (Australia) \$2.00 ea., Opals (Australia) \$1.20 ea., Moonstones (Ceylon) \$1.50 ea., Sapphires (Blues or Golden) India \$2.80 ea., Aquamarines (Brazil) \$2.00 ea., Sardonyx (South America) \$1.00 ea., Quartz topaz (Brazil) \$2.00 ea., Amethysts (Brazil) \$1.50 ea., Turquoises (Persia) \$1.10 ea. All stones cut and polished. We guarantee complete satisfaction. See that funds accompany your order. L. de Crissey, P. O. Box 93, Times Square Station, New York 18, N. Y.

ATTENTION TOURIST: When passing through Modesto, California, do stop and see the Ken-Dor Rock Roost at 419 South Franklin St. We Buy, Sell or Trade Mineral Specimens. Visitors are always WELCOME.

ATTENTION Cutters and Dealers. I am offering "Flowering Obsidian" in wholesale quantities. It's distinctive and beautiful. Write for particulars. W. T. Rogers, 1230 Parkway Ave., Salt Lake City 5, Utah.

PLUME AGATE, New discovery, White plume slices \$1-\$5, rough \$4 lb. Special Gold ore from Florence mine that produced \$60,000,000. Samples of Copper, Silver, Lead ore, all three postpaid \$1, larger chunks 50c lb. F.O.B. Beryl crystals, special 25c, 50c \$1-\$10. Also Cabochon cut Beryl \$2, \$3.50, \$5. Facet cut Beryl about \$3.50 carat. Rough Turquoise \$1.20, \$2.40, \$3.60 oz. Other mixed selected gemstones 3 lbs. \$3. Moonstone, Chalcedony, Agate, Jasper, Petrified wood and others, sample slabs 50c, \$1, \$1.50. Half interest in turquoise mining claim \$500. Sally Breen, Box 432, Goldfield, Nevada.

WANTED—Used Crawford Saw, Lap and Polishing unit. Katharine Gohn, Box 481, Mesa, Arizona.

"OWL" DOPPING WAX—and now fighting on the home front, a new different DOPPING WAX. Special formula. Not greasy. Lasts longer—holds your gems for that final mirror-finish in any climate. Lb. \$1.00, plus postage. L. E. Perry, 111 N. Chester, Pasadena 4, Calif. "BE WISE—USE 'OWL'."

WANTED: TO BUY and sell crystals and superbly colorful rare minerals, strictly top grade. Sam Parker, 2160 East Van Buren, Phoenix, Arizona.

WANTED: Excellent crystallized specimens, outstanding cutting material for wholesale trade. Send specimen samples and prices. Jack Frost, 59 E. Hoffer St., Banning, California.

MINERAL SETS—24 Colorful Minerals (identified) in 1x1 compartments—Postage paid, \$3.50. Prospector's Set of 50 Minerals (identified) in 1x1 compartments in cloth reinforced sturdy cartons, Postage paid \$5.75. Elliott's Gem Shop, 26 Jergins Arcade, Long Beach 2, Calif.

\$2.50 brings you prepaid six rare and beautiful crystallized Arizona minerals. Vanadinite, Dioptase, Wulfenite, Willemite, Chrysocolla, Azurite. Specimens 1½x2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

MONTANA MOSS AGATES in the rough for gem cutting, \$1.00 per lb. plus postage. Elliott's Gem Shop, 26 Jergins Arcade, Long Beach 2, California.

MINERALS, GEMS, COINS, Bills, Old Glass, Books, Stamps, Fossils, Buttons, Dolls, Weapons, Miniatures, Indian Silver Rings and Bracelets. Also Mexican. Catalogue 5c. Cowboy Lemley, Las Cruces, New Mexico.

INDIAN RELICS, Curios, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons, Catalogue 5c. Lemley Antique Store, Osborne, Kansas.

GILDE GEM CUTTER. We now offer this compact portable outfit to the home cutter. Write for details and new catalog listing over one hundred varieties of rough. Also all kinds of supplies. Gem Exchange, Bayfield, Colo.

LARGE ASSORTMENT of good quality gem stones. Prices in the rough run from \$2.00 per pound up. Sawed slabs, assorted \$3.50 per pound up. One pound of slabs will cut dozens of excellent cabochons. Send for approval selection of beautiful cabochons. Custom silversmithing and lapidary work estimates on request. Sterling silver sheet and wire in small quantities. I purchase good quality gem stone in the rough. Correspondence invited. Satisfaction or money-back guarantee. Paul F. Fryer, Walpole St., Dover, Mass.

BARGAIN BUNDLES—Assorted rough cutting material—Agates, Jasper, Geodes, Variscite, Turquoise, Chrysocolla, Petrified Wood, Obsidian, etc., 5 lbs. \$3.50, 10 lbs. \$6.00, 20 lbs. \$10.00. Assorted sawed cutting material—20 sq. in. \$3.50, 50 sq. in. \$7.00, 100 sq. in. \$12.00. Agate, Jasper, Chrysocolla, Variscite, Turquoise, Wood, Rhodonite, Obsidian, Opal, etc. Please include postage. Send for price list of cutting material, minerals, specimens, jewelry, etc. John L. James, Tonopah, Nevada.

100 GOOD GRADE ancient Indian arrowheads \$4.00, 1000 \$30.00. Tomahawk, hoe, discoidal, axe and 20 arrowheads \$5.00. Large flint knife, large spearhead, game ball, celt and 20 stemmed scrapers \$5.00. 100 blemished spearheads \$10.00. 100 fine arrowheads \$10.00, 100 slightly blemished stemmed scrapers \$4.00. 100 beautiful sea shells \$10.00. List free. Lears, Box 569, Galveston, Texas.

MINERAL SPECIMENS, slabs or material by the pound for cutting and polishing, RX Units, Felker Di-Met Saw Blades, Carborundum wheels, Cerium Oxide, Preform Cabochons, Indian jewelry, neck chains. Be sure and stop. A. L. Jarvis, Route 2, Box 350, Watsonville, California, 3 miles S. on State highway No. 1.

AMONG THE ROCK HUNTERS

Rockhounds up Russian river way have formed a club and they welcome visitors to attend meetings or to drop in any time at club headquarters, 429 Fourth street, downtown Santa Rosa. Meetings of Sonoma County mineral society will be held on second Wednesday of the month. W. H. Bushnell is president, Mrs. Clara Taft, secretary-treasurer.

Victor M. Arciniega spoke on origin of minerals at August 9 meeting of Pacific Mineral society of Los Angeles, held at Scully's Restaurant. August 11 "field trip" was potluck dinner meeting at home of Mr. and Mrs. A. H. Savage, 11184 Carson drive.

Dinuba Rock-eaters planned their August 6 meeting at the park north of El Monte, between McKinley and Perry avenues. Program announcement read, "Pictures, talkin, auctionin, visitin, and just general chin-waggin."

Searles Lake Gem and Mineral society held its annual potluck supper at Valley Wells August 21. Swimming and music were on the informal evening program.

Eagle Rock Mineral society is newest member of California Federation of Mineralogical societies.

Leo Cotton, 66, member of Southwest Mineralogists, head of art department of Los Angeles Examiner and landscape artist, passed away August 2 at California Hospital. He was stricken with heart prostration several weeks previously while painting on the desert.

Northwest Federation convention at Boise, Idaho, was scheduled to be held concurrently with Idaho state fair, August 31-September 1. Host societies were Owyhee Gem and Mineral society (Caldwell), Snake River Gem club (Payette and Weiser) and Idaho Gem club (Boise).

Next Rocky Mountain Federation convention, to be held in Salt Lake City, will take place during July, 1947, the Mormon Centennial month, which will offer many attractions besides gem and mineral events.

July meeting of Pomona Valley Mineral club was a picnic held in La Verne. Program included exhibits by members of specimens and faceted stones, and reports on the federation convention held in Glendale.

Rock and Gems, new mimeographed bulletin of San Fernando Valley Mineral and Gem society, made its appearance in August.

Third summer meeting of Mineralogical Society of Arizona, Phoenix, was to be held August 18 at 3301 North 24th street, home of new secretary George Hough.

Members of Tacoma Agate club who studied jewelry making under direction of Mrs. Lloyd Roberson, Seattle, and other members who have been doing equally interesting work, entering two late summer shows. They competed August 31-September 1 at Northwest Federation convention in Boise, Idaho, and September 15-23 at the Western Washington fair in Puyallup.

H. S. Keithley, late of Mineralogical Society of Arizona and Rocky Mountain federation, laments lack of rockhounds in Covington, Tennessee, but finds fishing excellent. Those who know him expect him to convert all the Indian relic collectors back there to rockhoundry before another season.

Fifteen members of lapidary class of San Fernando Valley Mineral and Gem society met July 16 at home of Mr. and Mrs. J. B. Clarke, who demonstrated methods of cutting with their new 16" saw.

Sacramento Mineral society held a summer evening picnic at McKinley park, substituting for regular July meeting. Despite out-of-town vacations, about 30 members attended and enjoyed an evening of sociability and relaxation.

At August 1 meeting of Santa Monica Gemological society, President Vern Cadieux gave short talk on geology and mineralogy of lead (the mineral of the month), followed by two bureau of mines sound films depicting the steps required from rock to "pig." Vacation trip reports included a combined fishing-rock hunting expedition to Mono Lake district by charter member Ed Oatman, who reported that vast quantities of lava in the area now are being used in manufacture of cement bricks.

Modesto Leonardi, engineer for American Potash & Chemical company and past president Searles Lake Gem and Mineral society, spoke on Searles lake minerals at August 15 meeting of Los Angeles Mineralogical society. Mr. Bailey, of the same company, spoke on fluorescent and phosphorescent minerals.

Woodrow A. Oldfield, Australia, importer and exporter of precious stones and jewelry manufacturer, would like to correspond with anyone interested in opals. His address: C/r Whitehorse and Union roads, Mont Albert, Victoria, Australia.

Plans are being made by San Fernando Valley Mineral and Gem society to hold a mineral show November 30-December 1. Dan Hamer heads the show committee. Announcement was made in August that North Hollywood Recreation center had been obtained for the show.



MINERALIGHT DETECTS URANIUM

"The available methods for detecting uranium lacked one or more of the desired characteristics. Eventually, however, a method was worked out that is probably more specific and sensitive than the usual qualitative methods for uranium. Since uranium is most susceptible to short-wave ultra-violet light, the lamp used in this work was the MINERALIGHT V-41 . . . which emits short-wave ultra-violet rays at 2537 Angstrom units."

INFORMATION CIRCULAR 7137
U. S. DEPARTMENT OF THE INTERIOR
Copies of the full report, "Fluorescence Test for Uranium," are available from the Bureau of Mines, Office of Mineral Reports, Washington, D. C.

ULTRA-VIOLET PRODUCTS, INC.

5205 Santa Monica Blvd. • Los Angeles, California, U.S.A.

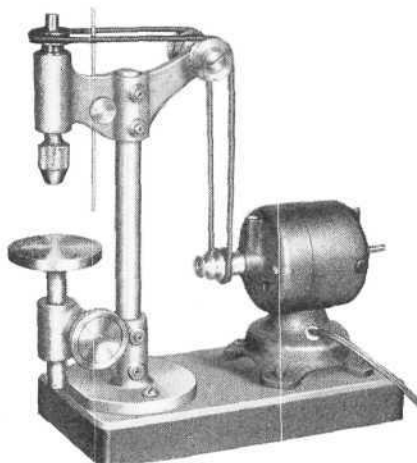
Miners and Prospectors
INSTANTLY IDENTIFY URANIUM MERCURY SCHEELITE WILLEMITE

and other valuable ores with
MINERALIGHT
Find Hidden Values

FREE
A four-color
MINERALIGHT
Catalogue . . .
WRITE DEPT. T TODAY!

DRILL GEMS . . . DRILL JEWELRY MIDGET DRILLER

A Universal Drilling Machine, 11 Inches High. Black Wrinkle Finish on Castings. A Real Instrument . . .



MODEL A PROFESSIONAL

Departure Sealed Ball Bearings, Jacobs Key Tightening Chuck, 3 Drilling Blocks, Motor Pulley and Belt . . .

\$37.50 Without Motor

MODEL B AMATEUR

Oilite Bearings, Hand Tightening Chuck, 3 Drilling Blocks, Motor Pulley and Belt . . .

\$27.50 Without Motor

Model A and B are identical except as stated above. You can use any sized motor. We furnish the pulley for your motor free. Give your motor shaft dia. and R.P.M. when you order. Deposit required with order—Balance P.P. (C.O.D.). Circular on request.

DIAMOND DRILL POINTS NO TUBES — NO PASTE

For Drilling Agate, Ruby and Sapphire
Very Fast.

3/64 (0.045) Dia.	\$ 7.50
1/16 (0.062) Dia.	8.50
2/MM (0.078) Dia.	9.00
3/MM (0.118) Dia.	10.00

The 1/16 Size is the All Purpose Size
Prompt Delivery

Post Paid, Cash with Order or C.O.D.

SHUMAKER PRODUCTS CO.

1312 East Fourth St. Sterling, Ill.

Mrs. M. M. Sumner, Chatsworth, writes that a good rockhound friend who served four years in the army is confined to naval hospital in Oakland, following a serious operation. As he will be there for quite some time, letters and cards from other rockhounds will help make his stay pleasanter. He is Charles R. Curry, U. S. N. Hospital, Oak Knoll, Ward 46A, Oakland 14, California.

Important wartime role of garnets and silver was described at August meeting of Yavapai Gem and Mineral society, Prescott, Arizona, by J. Walters, Jr., president Yavapai County Council ASMOA, and H. F. Mills, member board of governors of Arizona department of mineral resources. Walters told origin and history of garnets and how in wartime they replaced diamonds as abrasives and bearings. Mills described how silver was used in aircraft, atom bombs, and cyclotron experimentation. Program was arranged by junior members, Palmer C. Byrne, Jr., chairman, and John Butcher, secretary.

Minerals of Arizona, with emphasis on gem stones, was subject of Victor M. Arciniega, when he spoke before Los Angeles Lapidary society September 9.

A rock show was held September 7-8 at Gem Village, home of Colorado Gem company, according to announcement of dealer Frank Morse.

Victor Arciniega, mining engineer and geologist, talked on minerals and gems from magma to deposit at August meeting of San Fernando Valley Mineral and Gem society. Mr. and Mrs. Lynn displayed petrified woods. Harrison Stamp gave a brief talk on the door prize—a specimen from Mammoth mine, Arizona, containing wulfenite, mimetite, diopside and golden vanadinite.

Members of Los Angeles Lapidary society took an enjoyable and instructive "field trip" August 18 to home of Jim and Gertrude Forbes, Lynwood. Lunch was eaten in the patio, where guests were surrounded by unusual specimens and exquisite slabs of gem materials set in patterns around the walls of the outdoor area. Mr. Forbes, who specializes in large slabs, spheres and unusual show pieces, demonstrated his lapidary equipment, most of which had been reconstructed by himself.

A block of jade that weighs an estimated five tons, believed to be the largest yet found in the Sweetwater jade area near Lander, Wyoming, is being displayed by owners Wm. Mirion, Lloyd Curtis and Marshall Graham.

Lapidary class of San Fernando Valley Mineral and Gem society met August 15 at home of Mr. and Mrs. W. L. Cooper, 445 W. California street, Glendale. Mineralogy class of the society held an open forum meeting at home of Joe Mikesell, 6703 Bellingham avenue, North Hollywood, to discuss mode of occurrence and identification of copper minerals.

Mineral collecting in Brazil was subject of talk by Jack Streeter, mineralogist, before Long Beach Mineralogical society August 14. New address is 1850 East Pacific Coast highway.

Searles Lake district is of interest to many rock minded groups. Member Roy Bailey was invited to speak on history, geology and mineralogy of the region at August meeting of Los Angeles Mineralogical society. Orange Belt Mineral society, San Bernardino, has suggested trading field trips with the Searles Lake club. Professor C. D. Woodhouse plans to take about 30 science students from Santa Barbara college on a four day field trip to Searles Lake sometime in October.



NAVAJO INDIAN RUGS & JEWELRY
Tom S. Hubbell, 2331 Pico Blvd.
Santa Monica, California

PAUL & WARNER . . .
THE INDIAN SHOP
Indian Jewelry, Navajo Rugs, All Other
Indian Crafts
Open Daily, Sundays and Evenings
233 Grand Av. (Hy 39), Buena Park, Cal.

HEIRLOOMS OF THE FUTURE . . .
Marvin's fine handcrafted sterling
silver jewelry.
MARVIN'S ROCK SHOP
U. S. Highways 160 & 550, Durango, Colo.
Visitors Always Welcome

**TURQUOISE & CHRYSOCOLLA
JEWELRY**
(Wholesale Exclusively)
HAROLD D. MARYOTT
40 Oak St. Rt. 1 Miami, Arizona

MINIATURE SETS, Asst'd per doz. . . . \$6.00
50 RING STONES, including genuine and
synthetic . . . \$7.50
SYNTHETIC RUBIES or GENUINE GAR-
NETS, per carat . . . \$1.25
CAMEOS or OPALS—Genuine—12 for \$3.75
100 JEWELRY STONES removed from rings,
etc., \$2.40; 50 large ones . . . \$2.40
12 ARTICLES ANTIQUE JEWELRY, rings,
pins, etc. . . . \$3.00
500 COSTUME JEWELRY STONES . . . \$2.00
B. LOWE, Holland Bldg., St. Louis 1, Mo.

TIN OXIDE AGAIN! . . .
We have just received our first large
shipment of pure tin oxide and can now
furnish it in any quantity at \$1.25 per
pound. Why use substitutes?

ORDER TODAY FROM

HICKERSON SUPPLY COMPANY

This is just one of several "hard to get" items we now are receiving. We are obtaining a few electric motors again, but because of the limited number can only supply them with items of equipment.

Write for our temporary catalog—and if you have any cutting, grinding or polishing problem feel free to consult us.

—THIS MONTH'S SPECIAL—

4" cast aluminum Allen trim saw, equipped with sealed ball bearing arbor, lucite blade guard, aluminum v-belt housing, 4" Di-Met saw blade. Price: \$45.00 less motor.

1557 Arlington Ave. Los Angeles 6
Republic 4069

AGATE JEWELRY—MOUNTINGS

AGATE RINGS, Pendants, Brooches, Ear Rings, etc., good Montana agate sets, Heavy silver cast rings, either rough or polished ready to set stone in a variety of styles and shapes. All Mountings, jewelry, and custom cutting offered to authorized dealers at attractive discounts.

PACIFIC AGATE SHOP

O. R. and GEORGE JUNKINS

Box 1483, Nye Beach

Newport, Oregon

Before you buy any lapidary equipment—

Send for our
NEW CATALOG

THE NEW COMPACT 3V

LAPIDARY UNIT

it does everything!

SAWING • POLISHING
LAPPING • FACETING
SANDING • GRINDING
SPHERE CUTTING

● THE LATEST in lapidary equipment, with many exclusive features found in no other machines. More than 1000 in use. Price includes diamond saw, grinding wheels, sanding wheels, polishing buff and everything necessary to make cabochons and specimens up to capacity of the 8" saw. Saws up to 10" can be used on this machine.



AVAILABLE
WITHOUT PRIORITY



FACETING ATTACHMENT

● A FINE precision tool that greatly simplifies the cutting of any faceted gem. Can be used with any horizontal lap thru the use of a simple adaptor socket.

New Model H-16V

DIAMOND SAW UNIT

● HANDLES from a 10" to 16" blade. Safe clamp hold quickly adjusted to any size stone. Cross feed permits several parallel cuts without reclamping stone. Internal Pressure grease lubrication . . . adjustable oil sump. Splash proof, yet work is visible at all times.



Cuts faster!

Lasts longer!

PRECISION MACHINE MADE

DIAMOND SAW

PRICES	YOUR BLADE	RECHARGED
7" . . . \$4.75	NEW	\$4.00
8" . . . 5.75		4.75
10" . . . 7.85		6.85
12" . . . 9.50		8.25
14" . . . 11.75		10.00
16" . . . 13.50		11.50

WE PAY POSTAGE

ORDER TODAY FROM

Lapidary
EQUIPMENT COMPANY, INC.

1545 W. 49 ST., SEATTLE 7, WASH.

Cogitations . . .

Of a Rockhound

By LOUISE EATON

Rox is a handy hobby in menny ways. They keeps, not only for yurself, but for futcher generations. They don't have to be fed like birds nor mounted in a album like stamps nor sheltered in a even temperature and humidity room like orkids; they don't break like rare china nor tear like old prints. Toss um around ennywhere, neglect um, forget um. Then pick um up, dust um off—an' they're good as ever. Why, evun yur house can burn down an' not harm yur rox much. Ennyhow yu'd probally try hard to rescue yur best polished specimens.

Rox isn't too difficult nor xpensive to acquire onless yu has to have precious stones. Now that rockhoundin is bein better than its bin a-bein, mor an' more peepul'll undoubtedly becum rockhouns.

Is there a rockhoun ennywhere in the country who didn't take at least wun or 2 pet specimens along with him on his vacation?

A rockhoun keeps his promusses. If he sez he'll send sumwun a specimen or cut an 'polish him a rok he'll shure do it if possable. Bein human, he may forget it for a while, but in due (or over-due) time the promussed specimen'll appear.

Hazel Goff, in Sequoia bulletin, gives this characterization of a rockhound:

He rises in the early dawn,
And sneaking past neglected lawn,
Takes pick and sack and small canteen
And sallies forth, new spoils to glean.

He gasses up the old jalop
To o'er the landscape blithely hop,
Where roads are gone (or never were),
To find where treasure may occur.

He braves the weather, wet or dry,
And hikes beneath a blist'ring sky,
Or rows his car through desert flood—
Or digs it out of 'dobe mud.

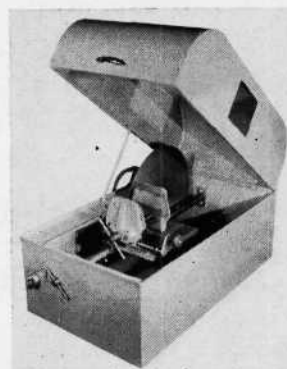
He roams the hills or desert wide,
Cracks tons of rocks to see inside;
Licks forty acres in a day,
And counts this effort merely play.

Returning, packs his plunder in
A sack, a box, a coffee tin,
The cupboard, desk and radio,
Till one more hunk just will not go.

He builds a wall, a barbecue;
He shares his choicest "pets" with you,
And glows with joy because he's found
In YOU—another good Rockhound.

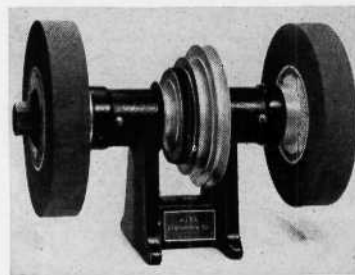
J. Bryant Kasey, owner of Prescott Engineering company, discussed origin and occurrences of diamonds at July meeting of Yavapai Gem and Mineral society, Prescott, Arizona. Society closed its first year of successful activities with nearly 50 charter members, and elected following officers for the coming year: Alvin A. Hanson, president; A. De Angelis, vice-president; Ida Smith, secretary, Box 1084, Prescott; Moulton B. Smith, treasurer.

'Alta' Lapidary Equipment



DIAMOND SAW UNIT, 16" Capacity. Will cut slabs 6 by 8 inch with 4" cross feed. 3 speed power feed with quick return feature.

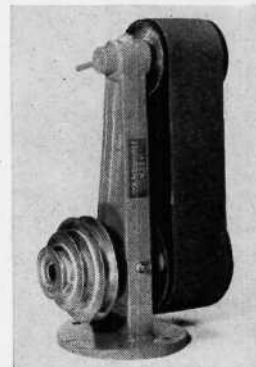
Price (less motor and blade)\$127.50
Shipping weight 115 lbs.



GRINDING ARBOR Heavy construction. Sealed SKF Ball bearings. Shaft 15" lg. with 3/4" arbor for up to 10" dia. wheels. 42" Belt furnished. Built to last a lifetime.

Price (less wheels)\$22.50
Shipping weight 23 lbs.

D
I
F
F
E
R
E
N
T



SANDER & POLISHER Alum. construction. Die cast pulleys. Eccentric cam device makes changing and tightening of belts easy. This unit is ideal for sanding and polishing.

Price (less belts)\$19.50
3 Belts 120, 220, 320 Grit 1.00
1 Woven polishing belt 1.95
Shipping weight 15 lbs.

LAP UNIT All alum. construction except alloy steel bevel gears and sealed ball bearings. With 8" dia. "MEEHANITE" Lap plate. Ideal for lapping flat specimens.

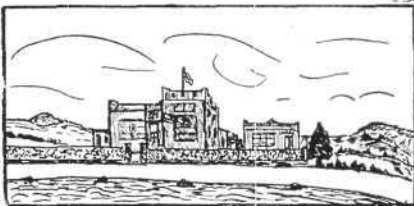
Price \$28.50 — Shipping weight 20 lbs.

Prices are F.O.B. Pasadena, California

ALTA ENGINEERING CO.

P. O. Box 1149

Pasadena 20, Calif.



GEM VILLAGE

Black Petrified Wood, 5-10 lbs., lb.	\$2
Colored Wood, 5-10 lbs., lb.	\$1
Ricolite, striped serpentine, lb.	50c
Black Obsidian, lb.	50c
Snowflake Obsidian, lb.	50c
Garnets, pyrope, cutting quality, oz.	50c
Colorado Plume Agate, per slab	\$1 to \$30

Other materials too numerous to mention, also, cabinet specimens, cut stones, silver jewelry, fluorescent materials, mineral books, lapidary work, gold and silver work to order.

THE COLORADO GEM CO.
BAYFIELD, COLO.

SLABS

SHATTUCKITE—Exclusive Arizona Gemstone. Pure blue 50c sq. in. Mixed with red or green 35c sq. in.

ARIZONA GEM PETRIFIED WOOD—From Petrified Forest area. Very colorful. 25c sq. in.

Prices Include Luxury Tax and Postage
Money Back Guarantee

Gorham's Gem Shop, Box 645, Ajo, Ariz.



For tile,
lapidary and
ceramic operations

**HEAVY-DUTY ★ SEMI-PORTABLE
IMMEDIATE DELIVERY**

Engineered and designed by the manufacturers of the Bevil Diamond Abrasive Cutting Wheels, this saw meets all requirements, and offers new and advanced improvements:

1. Standard hose coupling eliminates coolant can.
2. Positive coolant feed to both sides of the blade thru wiping sponges.
3. Easily accessible shut off cock for coolant flow control.
4. Large hand nut and fulcrum permit quick adjustment.
5. Single screw, pivoted guard for blade accessibility.
6. Adjustable steel ball bearing rollers and machined ways prevent side motion and assure accuracy of cut.

\$180.00 LESS MOTOR
F. O. B. South Pasadena

WITH 8" BLADE \$190.80

Cryco Inc. 815 Fremont Ave.,
SO. PASADENA, CALIF.

Sales Division of BEVIL CO., Los Angeles. Manufacturers of BEVIL Diamond Abrasive Cutting Tools

Pomona Valley Mineral club held August meeting at home of Mr. and Mrs. Lewis G. Taylor in Claremont. Speakers of the evening were Hollis B. Page, whose subject was Sardonyx, August birthstone, and George J. Bellemin, who spoke on methods of determining a new mineral. The talented Taylor children entertained the group with violin selections. Door prizes went to Mr. Kryder, Mr. Helfor and Mr. Weist.

East Bay Mineral society, Oakland, held its birthday dinner meeting September 2. Francis J. Sperisen was scheduled speaker for September 19 meeting, to be held at Lincoln school.

VACATIONS WORTH WHILE . . .

By W. SCOTT LEWIS
Hollywood, California

The wise vacationist will look for a place where he at least has elbow room and a chance to get away from the mob and be alone with nature. This is not difficult if one goes far enough from the city, as the average vacationist is looking for "amusement" of a type not provided in the wilds. His whole life has been so artificial that natural things have little appeal for him and his idea of a change is to go to a different place to eat, drink and dance.

Without question the person who gets the most real benefit from a vacation is the one who has the greatest love for nature and has some nature hobby, or better several of them. It doesn't matter much what the hobby is provided it is one that can be indulged in wherever he goes. There are rocks, insects, plants and birds everywhere, to form the basis for interesting hobbies that are guaranteed to take the mind off the normal routine of life and to lead one to spend his vacation in the sunshine and fresh air in spots far from the noise and rush of so-called civilization. Those who are interested in rocks and minerals and the study of geology will spend long hours climbing over the hills while their muscles become stronger and their minds more alert. If at the same time they are paying attention to the trees and wildflowers and are trying to identify the birds, the mental effect is just that much the greater.

Hobbies seem especially important for those who are getting on in years as there is a strong tendency to become physically and mentally lazy, and that leads to true old age and death. An outdoor hobby provides the stimulus needed to keep one active. It also leads to constant study which keeps the mind from failing. A lot of people who think they are old could add many years to their lives if they would stop worrying about the undertaker and get out in the hills with a prospector's pick and some bird glasses.

ANSWERS TO DESERT QUIZ

Questions are on page 16

- 1—To escape persecution.
- 2—Billy the Kid.
- 3—Food.
- 4—Paleontologist.
- 5—Mountain Meadows massacre.
- 6—Chemicals.
- 7—Salome.
- 8—Bottom of Grand Canyon.
- 9—Wyoming.
- 10—Salt River valley of Arizona.
- 11—Topaz.
- 12—A species of dates.
- 13—Quicksilver.
- 14—Nevada.
- 15—Saguaro.
- 16—Early stage coach operations in the Southwest.
- 17—Historical inscriptions.
- 18—Antelope clan.
- 19—Jasper.
- 20—Narcotic effect.

DID YOU KNOW . . .

That in the name of a mineral—

CHLOR means green? (Chlorite, Chlorastrolite)

CHALCO indicates presence of copper? (Chalcocite, Chalcopyrite)

FERR means iron? (Ferromanganese)

RHODO means pinkish red? (Rhodolite, Rhodochrosite)

AZUR, AZUL mean blue? (Azurite, Lazulite)

VER, VERD mean green? (Verd Antique)

CHERRY, applied to opals, properly used, means blood red to dark garnet red?

Mojave Desert Gem and Mineral Shop . . .

On Highway 91, 11 Mi. East of Barstow
One Mile West of Yermo, Calif.
E. W. SHAW, P. O. Box 363, Yermo, Calif.

\$1.00 BRINGS YOU . . . 1 specimen of Actinolite crystals in a crisscross mass. Scattered upon these specimens are pink quartz flowerlike inclusions. Try one of these for your collection, then write for list, also prices on many other fine specimens.

JACK THE ROCKHOUND

P. O. Box 86

Carbondale, Colo.

MONTANA AGATE . . .

Sawed slices in packages \$5.00 per package. Sawed slices mixed gem materials \$5.00 per package. No culls in these packages. Montana Agate, fine to choice, \$3.00 to \$10.00 per pound. Rough Montana Sapphires, mixed pale colors, choice gem but not large, cut about half carat, each 50c. Finished Montana Agate cabochons \$1.00 and up. Precision facet cutting. All work and materials guaranteed or money refunded.

FLATHEAD HOBBY MUSEUM

Highway 93

Rollins, Montana

"INVEST YOUR MONEY IN SOMETHING SOLID — BUY A ROCK"

LAPIDARY SUPPLIES & EQUIPMENT

Carborundum Brand Grinding Wheels and Sanding Cloth.

Wood Drum Sanders—2x9" and 3x9"
Felker DI-MET Saw Blades

Complete line of ARBORS for every purpose in your lapidary shop

RX Complete Lapidary Machines
8" Diamond Blade TRIMMING SAW

Cabochon Templates **PRECISION CUT**
15, 20, 25, 30, 35 degree ovals, ea. . . \$ 1.75
40, 45, 50, 55, 60 degree ovals, ea. . . 2.00
Complete Set of 10 Templates, set 16.50
Circles, each . . . 1.65

Make that next field trip worth while,
GET YOUR MINERALIGHT NOW

Free illustrated folder and price list on equipment—Send for yours today!

CUSTOM SAWING AND POLISHING

ABERCROMBIE'S AGATE SHOP

335 South Lakewood Blvd.
BELLFLOWER, CALIFORNIA

Mineralogical Society of Southern California, Pasadena, announces the following officers were elected for the ensuing year: Gene Linville, president; Stanton Hill, vice-president; Betty Holt, secretary; Don Stevens, treasurer. Directors selected are: Ernest Chapman, Willard Perkin, Ethel Grimes, Victor Robbins, Louis Vance, R. Heidrick and Jack Streeter.

At September 13 dinner meeting of Pacific Mineral society, Los Angeles, Mrs. Alwilda Dartt, science teacher at Torrence high school, spoke on her trip to Mexico, and displayed minerals from that country. A case of rare silver specimens was shown at the meeting.

An evening of music, poetry, pictures and rocks was enjoyed by 61 members and guests of Sequoia Mineral society August 6 when they met at Dinuba, California, city park. Alice Dickey read two of her poems and Marilyn Robertson played the violin. Bill and Margaret Wedel showed colored slides of petrified forest at Calistoga, Colorado, Nevada, Zion and Bryce, Grand Canyon and Boulder Dam.

Main feature of September 9 meeting of Mineralogical Society of Southern California, their first regular meeting for the new season 1946-47, was an authentic and informative sound motion picture story of wrought iron—its history from ancient times, development, physical properties, its fabrication and uses. Round table discussion of members' summer field trips followed.

Common bauxite and alumina (sapphires and rubies) differ chemically only in the presence or absence of water. Bauxite is hydrous while sapphires and rubies are not.

American investigators in Germany report finding synthetic mica fully as good as the best grade of natural mica from the mines. This was both "scrap mica" which can be used for fire proof roofing and a hundred other industrial purposes, and "leaf mica" which supplies material for heat proof windows in stoves, machines, etc. This synthetic material, when analyzed, proved to contain a mixture of oxides, fluorides and silico-fluorides of magnesium, iron, aluminum, vanadium and chromium. The United States, in recent years, has produced much of the "scrap" variety, but natural sheet mica of good size and quality is becoming rare.

Excellent quality of American tungsten electric light bulbs is due to fact that tungsten wire used to make the tiny coils in the bulbs is manufactured in this country by forcing the heated metal through holes bored in diamonds. By this means the fine tungsten wire comes out of the factory always exactly even in size and quality. It does not have any of the small inequalities and imperfections due to less expert methods. Foreign imitations are not made this way. Therefore the cheaper foreign products really are not cheaper. They cost less in the store, but the life of the bulb often is so short that in the end they are really expensive.

Immediate Delivery on Sterling Silver Sheet

	14 Ga.	16 Ga.	18 Ga.	20 Ga.	22 Ga.	24 Ga.	26 Ga.	28 Ga.	30 Ga.
6x1"	3.75	3.15	2.50	1.90	1.55	1.25	.95	.75	.65
6x3"	8.50	6.90	5.30	4.40	3.45	2.85	2.20	1.75	1.40

SPECIAL ECONOMY COMBINATION . . .

7 pieces Sterling Silver 18-30 ga. 6x1" Regular Value \$9.55, Special group price \$7.20
7 pieces Sterling Silver 18-30 ga. 6x3" Regular price \$21.35, Special group price \$19.25

STERLING SILVER ROUND WIRE . . .

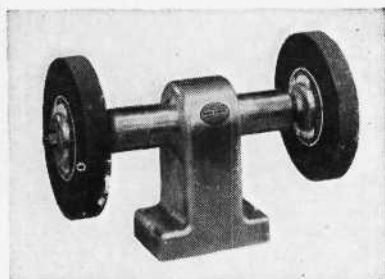
Gauge	No. 6	No. 8	No. 10	No. 12	No. 14	No. 16	No. 18
1 foot length	2.25	1.60	1.00	.70	.40	.30	.20
5 foot length	8.50	6.00	3.75				
10 foot length				5.50	3.25	2.25	1.60

Round Bead Wire, Pearl Bead Wire, 1/2 Round and 1/2 Round Bead, Triangular and Square Wire of all gauges are in stock for immediate delivery. Watch our ads for prices or stop in and select from our stock.

STERLING SILVER RING SHANKS—Fancy model 60c ea., \$5.50 per doz.
NECKLACE CLASPS—Sterling Silver 15c each or \$1.25 per dozen

1946 VICTORY CATALOG NOW AVAILABLE . . .

This 64 page illustrated catalog and 8 page supplement cost 45c to produce. For this reason we are asking you to send 20c in coin for your copy. It contains a listing of—
LAPIDARY EQUIPMENT AND SUPPLIES, SILVER IN MANY FORMS (SHEET, WIRE, BEZEL), JEWELRY FINDINGS, ROUGH, PREFORMED, AND POLISHED GEMS, FLUORESCENT LAMPS, MINERALS, BOOKS, MAGNIFIERS, RING MANDRELS, ETC.



GRIEGER'S GEMS AND MINERALS

1633 E. Walnut Street
PASADENA 4, CALIFORNIA

Business hours 9:00 a. m. to 5:30 p. m.
Closed All Day Sunday

Phone SY 6-6423

MINERAL IDENTIFICATION SIMPLIFIED

By O. C. Smith, A.B., A.M.
2nd Revised Edition
Price \$3.50
Plus Tax in California

Order from — O. C. SMITH - Dept. D
5157 Santa Ana St. — Bell, California

Beautiful! Dazzling! Spectacular!

RARE ARIZONA WILLEMITE — FRANKLINITE — CALCITE — SPHALERITE AND OTHER BRILLIANT FLUORESCENT AND PHOSPHORESCENT MINERALS, AND DECORATIVE ROCKS

from our mines
"ON THE BORDER, DOWN MEXICO WAY"
Specimens \$1 and up plus mailing or shipping

MOCTEZUMA CANYON MINERAL VILLAGE

P. O. Box 178 Bisbee, Arizona

DESERT SPECIMENS . . .

BARGAIN BUNDLE—Mixed cutting material. 25c per lb. or 5 lbs. for \$1.00.

SHOWY MINERAL SETS—20 colorful minerals attractively arranged and hand labeled in neat box. Excellent for gifts—study collections—\$2.00.

ASSORTED PREFORM CABOCHONS—25c each—10 for \$2.00.

HEADQUARTERS for beautiful XI lined Strawberry Geodes. Priced from \$1.00 to \$10.00. Complete satisfaction guarantee.

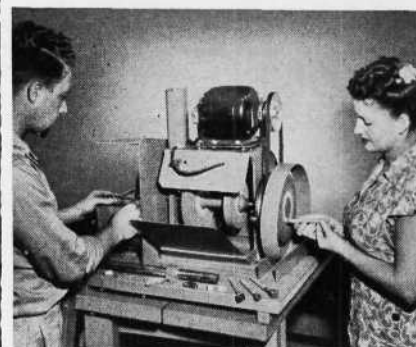
Postage and Tax Extra
Send dime for Catalog of Showy Specimens
VISITORS WELCOME

JACK FROST

59 E. Hoffer Street Banning, California

RX

A COMPLETE LAPIDARY SHOP IN ONE SMALL MACHINE



Entirely made in the RX factory by skilled mechanics.

True running, and will last a life time.

12 inch saw.

The gem machine you have been waiting for.

Only seconds required to change from one operation to another.

Start with the best and you make no mistake.

See your lapidary dealer or write direct for Bulletin A.

RX LABORATORY

1143 Post Ave. Torrance, Calif.

Mines and Mining . .

Washington, D. C. . . .

Although the U. S. Treasury now has a "silver for sale" sign over its doorway, demand for government stocks of white metal has been practically nil. Although congress authorized sale of government silver at 90.5 cents an ounce, the actual price is 91 cents, the extra half cent being to cover handling costs. The government has a stock of 50,000,000 ounces, and will have an additional 75,000,000 ounces when war-loans made to industries are returned during the next two years. It is believed that the offerings of foreign silver at prices below the government ceiling is responsible for the lack of demand for government-owned stocks.

Phoenix, Arizona

An optimistic report on the mineral resources of Arizona recently was given by Charles F. Willis, secretary of the Arizona Small Mine Owners association. He stated that the Miami Copper company still has an estimated 39,109,637 tons of ore in reserve. He estimated the productive life of producing copper mines at from five years at Castle Dome to "many years" at Miami, Globe, Morenci and Ajo.

San Manuel, Arizona

In the black hills surrounding San Manuel drills are churning out core samples designed to test the extent and depth of the great low-grade copper field now definitely known to exist here. When the field first was explored in 1943 the United States bureau of mines estimated the ore body at 30 million tons. More exhaustive tests made by the Magma Copper company, now developing the property, indicate the possibility of 100 million tons of low-grade. The metal-bearing deposit is now defined as 1000 feet wide and four-fifths of a mile long.

Goldfield, Nevada

Rumors that the Newmont corporation is preparing for extensive copper mining at levels below the former gold mining operations are current here. The corporation is reported to have been buying up claims and securing residential quarters, and while officials have refused to confirm the reports as to their program, many of the old-time mining men believe that Goldfield's comeback eventually will be in copper rather than gold.

San Bernardino, California

Congressman Harry R. Sheppard's bill to reduce the size of Joshua Tree national monument by restoring 310,000 acres of mineralized lands on the east side of the 838,258-acre park to public domain, died in the Public Lands committee when congress adjourned. Failure of the measure to pass is attributed to pressure brought by mining and commercial interests which seek the reopening of the entire monument to prospecting and mining. Congressman Sheppard has stated that a public hearing is to be held during October when an effort will be made to reconcile the opposing views of the mining fraternity and of the group which would preserve the major monument area exclusively for recreational and scientific purposes. It is hoped that a compromise may be reached which will be the basis of a new legislative proposal at the next congress.

Goldfield, Nevada

Confident that the mother lode of the Goldfield bonanza is to be found in Columbia mountain, Harold V. Lankford has formed a syndicate and states that money is on deposit to start tunneling into the massif as soon as contracts can be signed. The question Lankford has raised is highly controversial among geologists and mining men, but the stake is big and the answer is to be found only by the method now about to be undertaken. Pay ore has never been shipped from Columbia mountain—but here as elsewhere, gold is where you find it, and the Lankford venture is being watched with much interest.

Leo Manson of Kingman, Arizona, is reported to have taken a 10-year lease on a group of claims in the Music mountains near Hackberry. Gold was first discovered here in 1874.

J. W. Off, president of the Butte Lode mining company and veteran operator in the Rand district of California, died in Los Angeles early in August.

Dr. R. S. Dean, assistant director of the U. S. bureau of mines has resigned to re-enter private consultation work. Dr. Dean has been with the bureau 17 years, having been chief engineer of the metallurgical division before the war.

Pete Zavatti, formerly of Gallup, reports that he is mining an extra hard gem grade of turquoise at his deposits near Leadville, Colorado.

"Tungsten Deposits of the Osgood Range, Humboldt County, Nevada," is the title of a new bulletin published by the Nevada bureau of mines and the Mackay school. The authors are S. W. Hobbs and S. E. Clabaugh of the U. S. Geological Survey.

Desert Signboards.. Picture Contest

Signboards in the desert have had a vital role in the life—and death—of travelers and prospectors. Many of the oldtime signboards still stand, battered by the elements and defaced or altered by careless passersby who did not stop to consider the importance that an accurate guidepost might have for the next traveler. Desert Magazine, in the October contest, hopes to bring out some of the most interesting signposts which have pointed the way along desert trails.

First prize is \$10, and second \$5, and for each non-winning picture accepted for publication \$2.00 will be paid. Pictures must reach the Desert Magazine office by October 20, and the winning prints will be published in the December issue.

HERE ARE THE RULES

- 1—Prints must be on black and white, 5x7 or larger, printed on glossy paper.
- 2—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 3—Prints will be returned only when return postage is enclosed.
- 4—Contests are open to both amateur and professional photographers. Desert Magazine requires first and full publication rights of prize winning pictures only.
- 5—Time and place of photograph are immaterial except that they must be from the desert Southwest.
- 6—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.
- 7—Each photograph submitted should be fully labeled as to subject, time, place. Also as to technical data: shutter, speed, hour of day, etc.

ADDRESS ALL ENTRIES TO PHOTO EDITOR, DESERT MAGAZINE.

THE *Desert* MAGAZINE
EL CENTRO, CALIFORNIA

AMATEUR GEM CUTTER

By LELANDE QUICK

When members of the Los Angeles Lapidary Society hold a field trip to Butte, Montana, for sapphire it gives a fair idea of the traveling that is being done this year by rock collectors and an indication of what the future holds. Next winter will see the greatest influx of visitors to the western deserts that could be imagined. People going on rock trips today seem to think they are abused if they have to get out of the car before they get a thousand miles from home. Therefore, I am sure that right now there are thousands upon thousands of people in the Middle Atlantic states, New England and the Middle West who are planning coming West to the deserts for minerals and gem materials. For them a word or two of friendly counsel.

The desert is a wonderful place if you do not look on it as the "wasteland." It differs from New England in that it is arid and comparatively treeless and the hills are not green long, but it is no wasteland. Somehow people have an idea that a hill must be green to be beautiful but desert hills and mountains of red, brown and yellow against an almost permanently blue sky is a marvelous sight to an easterner. But the deserts are dry—and they're vast. They are vast to a degree not understood by those who never have seen them and easterners are recommended to stay on the paved road unless you are supplied with plenty of water, with equipment and the "know how" to get out of sand, with good tires and company.

No man who never has been to the desert should leave the road and go off alone. It is a good experience for a man once he gets away from the paving (in the company of others) to take a hike by himself. He doesn't have to go very far until he can pause and realize that he is alone as he has never been before and the awareness of it is somewhat terrifying to many because almost none of us is conditioned to live long alone and have never really been alone once in our lives. By all means leave the paved highway but have company when you do so and then if you love rocks and can divorce yourself from the problems of the world you can enjoy the most wholesome trip you've ever had.

The rocks are there. A hundred years from now, when all who read this are gone, the rocks still will be there—in far greater abundance than all that have been carried away. There are two things to remember—hardly more than five per cent of all desert areas are available to the automobile and not more than one per cent of all rocks taken from the desert possess any commercial value for gems or any other purpose. You will find the desert roads strewn with folks who have gathered worthwhile rocks and who will sell them in most instances for less than it will cost you to go after them. Patronize them but don't expect them to tell you where they got their rocks. They may tell you "over there in the Chocolate mountains" and you'll traipse "over there" only to find yourself in an area beyond your imagination. For instance, many of the best gem and mineral areas are in San Bernardino county in California, the largest county in the country and larger than several eastern states. There are numberless sections of the desert where you do not see a town in a journey greater

than the distance between New York and Boston or New York and Washington and you must condition your thinking to that before you ever start on a rock trip to the west. However, it is possible for you to plan a trip wisely, to give you not only the most healthful and interesting vacation you ever have had but you should be able to haul home enough good rocks so that by selling your surplus you will pay all expenses.

As far as gem cutting is concerned "reconversion" is over. All things needed are freely available with the exception of silver for jewelry making and electric motors. And *what* things are available! Good machinery and sturdy machinery of all types is for sale at reasonable prices. For the quality offered it is lower priced than it ever has been, which is a good lesson in how the laws of competition will keep prices in line if economic law is freely allowed to assert itself. On the other hand gem materials are several times the price they were before the war, not because of a permanent scarcity but because the demand at present exceeds the supply and a temporary scarcity exists.

Many beginners write me and say in effect, "I'm ready now. What will I buy?" It depends on what you want to do. I usually advise beginners not to start off by buying faceting equipment. Not until a man has had the rewarding satisfaction of faceting a stone has he the right to call himself a real lapidary. But that requires too much patience and technical knowledge to give a beginner any fun or enjoyment from a new hobby. He'll have more fun making all manner of interesting cabochons and he will not have to buy expensive materials. He can use materials he has collected himself and that is very rewarding. Therefore, if a man is going to begin by making cabochons he should have the following equipment which I regard as minimum:

- A sturdy grinding head and motor to run it.
- Two grinding wheels—No. 120 and No. 220 grit. To be alternated on one end of the head.
- Two sanding wheels of No. 220 grit—one new and one worn. To be alternated on the other end of the head.
- A splash pan to handle the water from the grinding wheel. Some method of bringing the water to the wheel.
- A felt buff.
- A diamond saw with a motor.
- Dop sticks, wax and polishing agents.

All of this can be assembled in one machine which I refer to as a "one man band." But some of these "bands" are fine and they are ideal for the person who has no large space for a "shop." The above list is a minimum of things needed except that one can do without a diamond saw for a while and buy preform cabochon blanks from dealers. You can have another head so that you have sanders on one head and grinders on another and not have to change or you can have a long assembly line of things with felt, canvas, leather and laminated buff polishing wheels and sanders and grinders of varied grits. However, you can turn out all manner of gems if you just buy the items in the above list, all of which can be had at various prices.

Covington LAPIDARY EQUIPMENT
Used by the U. S. Government



16-inch
LAP UNIT



14-inch
Power
Feed
DIAMOND
SAW

Send for
Literature to

Covington SEND FOR LITERATURE TO
LAPIDARY ENGINEERS
REDLANDS, CALIFORNIA

NEVADA FIRE OPALS

The famous Rainbow Ridge mine in Nevada is now being operated by Harry E. Foulks, owner, and Carl Bangle, sales manager.

We are now featuring those beautiful specimen bottles 1x4 inches in size, and chuck full of fire opals, abounding in a brilliance of flashy colors. Make your collection complete with one of these. Price \$10.00 each. California residents please include 2 1/2 % sales tax.

No cutting material available at present.

CARL BANGLE
1110 Truxton Ave. Bakersfield, Calif.



Lapidary Supplies

for the
Gem Cutting Shop

VRECO

VRECO

Diamond Saws
Grinding Wheels
Polishing Wheels

Abrasive Cloth
Polishing Powders
Abrasive Grains

WRITE FOR COMPLETE LISTING
OF ABOVE ITEMS AND OTHER
VRECO SUPPLIES

VREELAND

MANUFACTURING CO.

2026 S. W. Jefferson Street
PORTLAND 1, OREGON

A

Abbot, Chuck	Jun 46 p3
Abrams, Jake	Dec 45 p19
Adams, Arles	Jan 46 p4, Feb 46 p9
	May 46 p23, Jul 46 p13, Aug 46 p12
Adams, Frank	Apr 46 p3, Aug 46 p12
Agate valley, California	Nov 45 p19
Aguereberry, Jean Pierre (Pete)	Feb 46 p34
Ainsworth, Ed	Mar 46 p3
Ajo, Arizona	Dec 45 p3
Ajo copper mines, Arizona	Feb 46 p31
Albuquerque, New Mexico	Apr 46 p23
Aleson, Harry	Sep 46 p36
All-American canal,	
Coachella branch	Apr 46 p35, Aug 46 p5
<i>Amateur Gem Cutter</i> ,	
by Leland Quick	Each issue
American Indian Day	Aug 46 p29
Andrews, Wilbur E.	Mar 46 p19
Animal life (see also Birds, Insects, Rep- tiles), Ghost Mountain, Calif.	Dec 45 p23
	May 46 p21, Jun 46 p23, Sep 46 p31
Animals, adaptation to desert	Sep 46 p5
Anza Desert state park, Calif.	Feb 46 p9
	May 46 p23
Arizona, population	Apr 46 p37
<i>The Arizona Nightingale</i>	May 46 p3
Arizona "navy"	Apr 46 p11
Arrowhead Lake, California	Apr 46 p36
Ashley, Gen. Wm. H.	Oct 46 p10
Atomic bomb laboratory, N. M.	Sep 46 p37
	Oct 46 p5
Aubrey, Francois Xavier	Mar 46 p28

B

Baca, Elfego	Nov 45 p38
Bailey, Dr. L. H.	May 46 p23
Bandelier, Adolph Francis	Nov 45 p4
Bandelier natl. mon., N. M.	Nov 45 p4
	Aug 46 p3, Oct 46 p5
Banning, Capt. William	Apr 46 p35
Barnes, "Barney"	Jan 46 p9
Barnett, Howard	Apr 46 p17
Barstow, California	Jul 46 p5
Basic Magnesium plant,	
postwar use	Jun 46 p10
Bauwens, Prof. Geo. O.	Oct 46 p32
Beal, Mary	Jul 46 p2
Beal, Mary. Author of—	
<i>Giant and Midget Poppies</i>	Nov 45 p23
<i>Desert Christmas Tree</i>	Dec 45 p2
<i>Desert Signpost to Water</i>	Feb 46 p22
<i>Tree That Jumps</i>	Apr 46 p29
<i>Country Cousins of the</i>	
<i>Dandelions</i>	May 46 p29
<i>Shrub That Wears Royal</i>	
<i>Purple Robes</i>	Jul 46 p19
<i>Old Man Groundsel</i>	Aug 46 p19
<i>Plant of Starry Flowers—and</i>	
<i>Sandpaper Leaves</i>	Sep 46 p23
Beale, Lt. Edw. Fitzgerald	Jun 46 p15
Beatty, Dr. Willard	Jun 46 p4
Beckwith, Frank	Oct 46 p17
Beilby theory of gem polishing	Mar 46 p39
Bellis, Tommy	Jun 46 p10
Benson, Arizona	May 46 p14
Bidwell, John	Mar 46 p5
Bilbo, Senator	Aug 46 p38
Bill Williams canyon, Arizona	Mar 46 p28
Birds, adaptation to desert	Sep 46 p5
Bitany, Tom	Jul 46 p9
Black Jack mine, California	Feb 46 p23
Blackford, John Lindsey. <i>They Live in</i>	
<i>Heat and Drouth</i>	Sep 46 p5
Bloomington, Bob	Jan 46 p9
Blythe, California	Sep 46 p11
Boles, Col. Thomas	Jul 46 p29
Bonita lava flow, Arizona	Feb 46 p5
Bonneville, Capt. B. L. E.	Oct 46 p10

Book Reviews—

Benson and Darrow, <i>Manual of Southwestern Desert Trees and Shrubs</i> , Jan 46 p2; Chandos, <i>Village in the Sun</i> , Aug 46 p39; Cockerell, <i>Colorado Desert Geology and Biology</i> , Dec 45 inside cover; Colbert, <i>The Dinosaur Book</i> , May 46 p47; Craig, <i>Mammillaria Handbook</i> , Jan 46 p2; Douglas, <i>Gold in Placer</i> , Nov 45 p2; Evans (Dumke edit.), <i>Mexican Gold Trail</i> , Aug 46 p39; Fergusson, <i>Mexican Cookbook</i> , Jul 46 p39; Flagg, <i>Rockhounds & Arizona Minerals</i> , Nov 45 p2; Geiger and Bryerly (Potter, edit.), <i>Trail to California</i> , Aug 46 p39; Hannum, <i>Spin a Silver Dollar</i> , Apr 46 p47; Haystead, <i>If the Prospect Pleases</i> , Sep 46 p47; Hewett and Dutton, <i>The Pueblo Indian World</i> , May 46 p47; Hibben, <i>The Lost American</i> , Aug 46 p39; Hunt, <i>Guidebook to the Geology and Geography of the Henry Mountain Region</i> , Sep 46 p47; Lang, <i>First Overland Mail</i> (v. 2), Feb 46 p47; McNairn and MacMullen, <i>Ships of the Redwood Coast</i> , Feb 46 p47; Niggli, <i>Mexican Village</i> , Aug 46 p39; Tireman, <i>Cocky</i> , Sep 46 p47; Towne and Wentworth, <i>Shepherd's Empire</i> , Jul 46 p39; Webster and Hinton, <i>Introductory Gemology</i> , Mar 46 p45; Whipple, <i>This is the Place: Utah</i> , Mar 46 p47; Winther, <i>Via Western Express & Stagecoach</i> , Feb 46 p47; Wolfe, <i>Son of the Wilderness</i> , Nov 45 p2; Woods, <i>The Naturalist's Lexicon</i> , Apr 46 p47; Alter (Ed.), <i>Journal of Capt. Albert Tracy</i> , Howard, <i>Revised Lapidary Handbook</i> , Scott, <i>Romance of the Highways of California</i> , Southwest Monuments Asso., <i>Arizona's National Monuments</i> , Oct 46 p12.

Borrego valley, California	May 46 p23
Botany (see also Cactus, Palm oases)—	
Arizona Cypress	Dec 45 p2
Daleas (Parosela)	Jul 46 p19
Devil's Claw (Martynia)	Nov 45 p9
	Feb 46 p27, Apr 46 p32, Jun 46 p39
Groundsel (Senecio)	Aug 46 p19
Guatamote (Baccharis)	Feb 46 p22
<i>Pilostyles thurberi</i>	May 46 p29
Poppies (Argemone, Canbya)	Nov 45 p23
Sandpaper Plant (Petalonyx)	Sep 46 p23
Spanish Needles	Feb 46 p27
Tack-stem	May 46 p29
White Ratany	Feb 46 p27
Boulder dam	Sep 46 p11
Boulder dam, name change	
proposed	Sep 46 p10
Boundary canyon, California	Jul 46 p13
Boundary peak, Nevada	Aug 46 p27
Bowers mansion, Nevada	Jul 46 p28
Bow Willow canyon, California	Feb 46 p9
Bradt, George	Apr 46 p3
Brady, Peter	Dec 45 p3
Bridal Veil falls, Arizona	Nov 45 p9
Bridge Canyon dam, proposed	Apr 46 p33
Bridger, Jim	Oct 46 p10
Briggs, Ian A.	Apr 46 p36
Brown, Senator Charles	Mar 46 p14
Burroughs, Hulbert	May 46 p23
Bush, Mr. and Mrs. J. W.	Oct 46 p13
Butler, Bill	Oct 46 p13

C

Cactus—	
Cholla Cactus (Opuntia)	Apr 46 p29
<i>Sclerocactus whipplei</i>	May 46 p10
Cactus, control of pest types	Mar 46 p46
	May 46 p13
Cactus, furniture	Jan 46 p21
Cady mountains, California	Jan 46 p9
Calico mountains, California	Jul 46 p5
<i>California Desert Trails</i>	Jul 46 p38
Camp cookery	Jan 46 p4, Mar 46 p31
Camping equipment	Oct 46 p23

Campo-mocha ("Chamapocha")	Feb 46 p23
	Mar 46 p31
Cañez, Jesús	Jan 46 p17
Cantu, Gov. Esteban	Aug 46 p12
Cantu palm oasis, Lower Calif.	Aug 46 p12
Canyon de Chelly, Arizona	Apr 46 p23
Carleton, Gen. James	Apr 46 p23
Carriart valley, California	Mar 46 p9
Carrick, Margaret. <i>Beauty from the</i>	
<i>Roadside</i>	Mar 46 p23
Carrizo canyon, California	Nov 45 p24
Carson, Kit	Apr 46 p23, Jul 46 p9
	Oct 46 p10

Cassell, Richard L. Author of—	
<i>'Circus' Bug of the Desert</i>	Nov 45 p18
<i>The Ways of a Desert Tortoise</i>	Dec 45 p25
<i>Master of Camouflage</i>	Apr 46 p16
<i>Striped Sphinx Moth</i>	Jul 46 p17
<i>Streamlined for Speed</i>	Sep 46 p19
Cataract creek, Arizona	Nov 45 p9
Catsclaw (Acacia), size	Nov 45 p33
	Dec 45 p27
Cedar Breaks natl. mon., Utah	Dec 45 p33
Centipede	Jan 46 p25, Mar 46 p32
	Apr 46 p32
Chamberlain, W. A.	Feb 46 p35
Chewiwi, Marie	Jul 46 p29
Childs, Tom	Dec 45 p3
Chuckawalla mountains, Calif.	Nov 45 p19
Cibola, "rediscovery"	Jul 46 p29, Sep 46 p37
Claassen, Bernhard G.	
(Bernard Johnson)	Feb 46 p15
Clark, Ed W.	Jun 46 p27
Clarke, C. K.	Sep 46 p11
Clubb, Roger	Oct 46 p32
Clum, Woodworth	Jul 46 p26
Coachella, origin of name	Nov 45 p33
Coachella valley, California	Feb 46 p15
Colbert, Dr. Edwin H.	Oct 46 p26
Colorado desert, location	May 46 p30
Colorado river	Jan 46 p4
Colorado river, boating	Oct 46 p32
Colorado river, dams	Nov 45 p13, Jan 46 p28
	Feb 46 p26, Jun 46 p25, 38, Sep 46 p11
Colorado river, ferries	Sep 46 p11
Colorado river, gold prospecting	Aug 46 p9
Colorado river, water supply	Sep 46 p46
Colorado River Indian res.	Nov 45 p13
	Mar 46 p46, Jun 46 p4
Compass, using watch for	Jan 46 p31
	Mar 46 p32

Conrad, F. <i>He Still Has His</i>	
<i>Friends</i>	Mar 46 p14
Coolidge, Mary Roberts	Mar 46 p47
Copper mining, Ajo, Ariz.	Dec 45 p3
Cottonwood, Arizona	Oct 46 p27
Cottonwood canyon, Death Valley	Dec 45 p19
Coyote canyon, California	May 46 p23
Coyote wells, California	Jul 46 p13
Cushing, Frank Hamilton	Nov 45 p4

D

Damon, Anson C.	Jul 46 p9
Date Palm beach, California	Aug 46 p27
Dates, culture, history	Feb 46 p15
Davies valley, California	Jul 46 p13
Davis, "Rattlesnake" Bill	Aug 46 p8
Davis dam (Colorado river)	Jan 46 p28
	Feb 46 p26, Jun 46 p25
Dawson, Glen	Oct 46 p32
De Angelis, Armando	Dec 45 p34
De Anza, Capt. Juan Bautista	May 46 p23
De Luce, Mrs. Eliza	Dec 45 p29
DeSmet, Fr. Pierre Jean	Oct 46 p10
De Smet-Bidwell party	Mar 46 p5
Death Valley, California	Dec 45 p19
<i>The Delight Makers</i>	Nov 45 p4
Demarra, Manuel	Aug 46 p12
Dempsey, Mrs. Cecile	Oct 46 p32
Dent, George	Nov 45 p13
<i>The Desert Barnacle</i>	Feb 46 p33

Desert camping	Oct 46 p23
Desert Cavalcade	Apr 46 p46
Desert Center, California	Feb 46 p23
Desert kit fox	Sep 46 p5
Desert quiz	Each issue
Desert real estate	Jul 46 p38
<i>Desert Refuge</i> , by Marshal South	Each issue
Desert Riders, Palm Springs	Feb 46 p35
Desert roads, condition	Apr 46 p42
.....	Jun 46 p35
<i>Desert Rough Cuts</i>	Aug 46 p5
Desert travel	Jan 46 p46, Feb 46 p9
.....	May 46 p23
Diaz, Melchior	Nov 45 p13
Diklon, Arizona	Oct 46 p13
Dodge, Henry Chee	Feb 46 p20, Jul 46 p29
Doerner, Fred	Apr 46 p11
Dominguez, Fr.	Oct 46 p10
Donner party	Mar 46 p5, Oct 46 p10
Dos Palmas oasis, California	Nov 45 p24
Dripping springs, California	Mar 46 p19
Drummond, Bruce	Feb 46 p15
Dunn, Elmer E.	May 46 p46
Duppa, Darryl	Dec 45 p3

E

<i>Eagles Fly West</i>	Mar 46 p3
<i>Early History of the Southwest</i>	Jul 46 p29
Earp, California	Apr 46 p11
Earp, Wyatt	Jun 46 p23
Eaton, Arthur L. Editor,	Each issue
<i>Gems and Minerals</i>	Each issue
Eaton, Louise. <i>Cogitations</i>	Each issue
Edgell, Oly T.	Jun 46 p10
Ehrenberg, Arizona	Sep 46 p11
Ehrenberg, Hermann	Nov 45 pp13, 24
Eilers, Gus	Aug 46 p27
Eleodes (Pinacate beetle)	Nov 45 p18
Ellsbury, Marvin and Robert	Oct 46 p46
Escalante, Fr.	Oct 46 pp10, 17
Evans, W. H. W.	Oct 46 p32

F

Fern canyon, California	Mar 46 p19
Fewkes, Dr. J. Walter	Jul 46 p9
Fillmore, Utah	Oct 46 p17
Fish Springs station, Calif.	Mar 46 p9
"Fish Traps"	Nov 45 p34
Fisher, Luke	Aug 46 p12
Fitzpatrick, Thomas	Mar 46 p5
Five-acre homesteads
(see Homesteads)	Dec 45 p13
Flower arrangement	Mar 46 p23
Font, Fr. Pedro	May 46 p23
Fort Defiance, Ariz.	Apr 46 p23, Jul 46 p9
Fort Mojave Indian reservation	Nov 45 p13
Fort Sumner, New Mexico	Apr 46 p23
Four Corners area	Oct 46 p46
Freeman, Catherine and Dick. <i>So! You'd</i>
<i>Like to Camp Out?</i>	Oct 46 p23
Fremont, Gen. John C.	Nov 45 p33
.....	Oct 46 p10
French-Tanner trail, Grand Canyon	Aug 46 p9
Frijoles canyon, New Mexico	Nov 45 p4
.....	Oct 46 p5

G

Garcés, Fr. Francisco	Nov 45 p9, Jan 46 p4
Garrison, Lon	May 46 p3
Gatlin, Walter	Jan 46 p4
Gem cutting and polishing (see also
Lapidary)	Mar 46 p39, Apr 46 p45
Gem prices	Jan 46 p45
Gem thin-section slides	Jun 46 p37
Gem and Mineral department	Each issue
Gem and mineral collecting: Areas—
Arizona, Hopi Buttes	Oct 46 p13
Arizona, Meadow Creek canyon	Jun 46 p15
California, Colorado desert	Nov 45 p19
.....	Mar 46 p9, Apr 46 p11, Aug 46 p5
California, Death Valley	Dec 45 p19
California, Mojave desert	Jan 46 p9
.....	Feb 46 p23, Jul 46 p5
Nevada, southern	May 46 p10, Sep 46 p15

Oregon, Priddy ranch	Feb 46 p45
Gem and mineral collecting,
ethics	Dec 45 p35, Jan 46 p31
Gems and minerals: Collecting—
Agate	Nov 45 p19
.....	Apr 46 p11, Jun 46 p15
Aragonite	Aug 46 p15
Augite	Oct 46 p13
Carnelian	Apr 46 p11
Chalcedony	Nov 45 p19, Apr 46 p11
.....	Jun 46 p15, Jul 46 p5
Chrysocolla	Feb 46 p23
Concretions	Mar 46 p9
Epidote	Jul 46 p5
Fossil material	Dec 45 p19
.....	Apr 46 p11, Jul 46 p5
Geodes	Nov 45 p19
Gypsum crystals	Mar 46 p9
Jasper	Jan 46 p9, Apr 46 p11
.....	May 46 p10, Jul 46 p5
Onyx	Sep 46 p15
Quartz crystals	Feb 46 p23
Quartzite	Apr 46 p11
Gems and minerals, description—
Aventurine	Mar 46 p45
Augite	Oct 46 p13
Beryl, gem	Aug 46 p34
Bonita (Chalcedony)	Nov 45 p41
Brazilianite	Feb 46 p39
Onyx, gem	Sep 46 p15
Uranium	Jan 46 p39
"Wonder Rock"	Apr 46 p30

<i>Geology of the Oatman</i>
Gold District	Jun 46 p15
Gibbs, Josiah F.	Aug 46 p9
Gila Bend, Arizona	Dec 45 p3
Gila Butte, Arizona	Sep 46 p20
Gila reclamation project (see also U. S.
Reclam. Proj.)	May 46 p31, Sep 46 p33
Gilbert, Hope. <i>He Explored the Ancient</i>
<i>Home of the Koshare</i>	Nov 45 p4
Glaser, Bob	Sep 46 p24
Glass, Hugh	Oct 46 p10
Gold mining, 1945 production	Apr 46 p30
Gold prospecting, Colorado river	Aug 46 p9
Gold Road, Arizona	Jun 46 p15
Golden eagle	Aug 46 p20, Oct 46 p20
<i>The Golden Hoof</i>	Jul 46 p39
Goulding, Harry and Mike	Oct 46 p46
Grand Canyon country	Nov 45 p9
.....	Feb 46 p5, Aug 46 p9
Grant, President U. S.	Nov 45 p13
Great Salt desert, Utah	Mar 46 p5
Great Salt lake, Utah	Jul 46 p30
Great White Throne, Utah	Oct 46 p32
Greene, Col. Wm. C.	Sep 46 p11
Guadalupe canyon, Lower Calif.	Jan 46 p4

H

Haight, Isaac C.	Aug 46 p9
Hall, Ansel F.	Jun 46 p10
Hall, John	Nov 45 p19
Hanna, George	Jan 46 p13
Hardesty Chemical company	Jun 46 p10
<i>Hard Rock Shorty</i>	Nov 45-Jun 46,
.....	Aug 46, Oct 46
Harrington, M. R.	Mar 46 p3
Harrington, M. R. <i>Adventure With a</i>
<i>Mummy</i>	Dec 45 p17
Harris, "Shorty"	Mar 46 p14
Harrison, Louis	Apr 46 p17
Harvey, Dr. E. M.	Aug 46 p12
Haspah, Adele	Apr 46 p5, May 46 p4
Havasas canyon, Arizona	Nov 45 p9
Hawaiian colony, Utah	May 46 p17
Headgate Rock dam
(Colorado river)	Nov 45 p13
Hemenway Southwestern
archeological expedition	Nov 45 p4
Henderson, Evonne	Jan 46 p3
Henderson, Nevada	Sep 46 p15
Henderson, Randall. Author of—
<i>Where Palm Meets Pine</i>	Nov 45 p24
<i>Palms in Pushawalla Canyon</i>	Dec 45 p7
<i>Guadalupe Canyon in</i>
<i>Lower California</i>	Jan 46 p4

<i>Wood for Indian Bows</i>	Feb 46 p9
<i>Dripping Springs in the</i>
<i>Santa Rosas</i>	Mar 46 p19
<i>Palms That Grow in</i>
<i>Cat Canyon</i>	Apr 46 p17
<i>By Jalopy Through the 'Sweepings</i>
<i>of the World'</i>	May 46 p23
<i>Palm Hunters in the</i>
<i>Inkopab Wastelands</i>	Jul 46 p13
<i>We Camped at Cantu Palms</i>	Aug 46 p12
<i>He Helped Combat</i>
<i>Ol' Man River</i>	Sep 46 p11
Hendron, J. W.	Aug 46 p3
Hendron, J. W. <i>Atomic Man in the Haunts</i>
<i>of the Ancient Cave Man</i>	Oct 46 p5
Hidden Palms oasis, Calif.	Mar 46 p31
Hidden valley, California	Jul 46 p20
Highland Springs resort, Calif.	Feb 46 p34
Hildebrand, Robert B.	Aug 46 p9
Hillery, Bill	Aug 46 p12
Hilton, Eunice	Mar 46 p9
Hilton, John W. Author of—
<i>Geodes in an Old 'Battlefield'</i>	Nov 45 p19
<i>Mystery of Jake Abrams'</i>
<i>Lost Wagon</i>	Dec 45 p19
<i>Jasper Enough for Everybody</i>	Jan 46 p9
<i>Giant Ironwood of the Palens</i>	Feb 46 p23
<i>'Petrified Ice' in a Sandstone Zoo</i>	Mar 46 p9
<i>We Hunted Desert Gems—</i>
<i>in a Boat</i>	Apr 46 p11
<i>Rare Gemstone of the Ancients</i>	May 46 p10
<i>Joe Returns to His Job</i>
<i>on the Desert</i>	Jun 46 p10
<i>Fossils While You Wait</i>	Aug 46 p5
<i>His Legacy Was a Gem</i>
<i>Onyx Field</i>	Sep 46 p15
Hilton, Philip	Nov 45 p19
Hines, Kenneth J.	Jan 46 p9
Hipkoe, Alfred R.	Oct 46 p3
Hipkoe, Alfred R. <i>We Found Crystals</i>
<i>in the Hopi Buttes</i>	Oct 46 p13
Hodge, Dr. Frederick W.	Jul 46 p9
Holmes, Lt. and Mrs. Robert	Jul 46 p13
Homer, Frank and Pete	Nov 45 p13
Homesteads (see also U. S. Reclamation
Projects	Dec 45 p13, Apr 46 p17
Hopi buttes, Arizona	Oct 46 p13
Hoyt, Mrs. Albert Sherman	Oct 46 p20
Hubbard, Mr. and Mrs. Russell	Oct 46 p23
Hubbell, Lorenzo	May 46 p4, Jul 46 p9
Hunter, Mr. and Mrs. Roy C.	Aug 46 p27
Huntington, Mary Margaret.
<i>Benson's Val Kimbrough</i>	May 46 p14

I

Idyllwild, California	Apr 46 p36
Indian child slavery	Oct 46 p17
Indian Claims commission	Oct 46 p32
Indian cradleboards	May 46 p30
.....	Jun 46 p39, Jul 46 p2
Indian crafts, Apache fiddle	Nov 45 p31
Indian crafts, Havasupai baskets	Nov 45 p19
Indian crafts, Navajo weaving	Apr 46 p5
.....	May 46 p4
Indian crafts, silver supply	Mar 46 p27
Indian crafts, status	Dec 45 pp27, 40
.....	Jan 46 p32, May 46 p4
Indian jewelry, code of standards	Feb 46 p36
Indian petroglyphs, Arizona	Jan 46 p17
Indian pottery, Hohokam	Sep 46 p20
Indian ruins, N. M.	Nov 45 p4, Jan 46 p13
Indians—
Apache	Nov 45 p31
Cahuilla	Mar 46 p19, Apr 46 p17
Chemehuevi	Nov 45 p13
Cochiti	Nov 45 p4
Havasupai	Nov 45 p9, Aug 46 p9
Hopi	Mar 46 p46, Jun 46 p4, Aug 46 p20
Mojave	Nov 45 p13, Jun 46 p4
Moqui (see Hopi)
Navajo	Feb 46 p20, Apr 46 p5, May 46 p4
Papago	Dec 45 p3, Jan 46 p17
Pima	Sep 46 p20
Santo Domingo	Nov 45 p4
Ute	Oct 46 p17

Indians, prehistoric Nov 45 p4, Sep 46 p20
 Oct 46 p5
 Indio, California, population Apr 46 p36
 Indio hills, California Dec 45 p7
 Inkopah mountains, Calif. Jul 46 p13
 Insects—
 Centipede Jan 46 p25
 Mar 46 p32, Apr 46 p32
 Eleodes (Pinacate bug) Nov 45 p18
 Praying mantis
 (Campo-mocha) .. Feb 46 p23, Mar 46 p31
 Striped Sphinx moth Jul 46 p17
 Wasps Feb 46 p13
 International boundary survey Jul 46 p13
 Ioseppa (ghost town), Utah May 46 p17
 Ironwood trees, size Feb 46 p23
 Ives, Lt. Jos. C. Jun 46 pp15, 38

J

Jackson, David E. Oct 46 p10
 Jackson Hole preserve, Wyo. Mar 46 p38
 Jacumba, California Jul 46 p27
 Jaeger, Edmund C. Mar 46 p19
 Japanese-Americans (Poston) Jun 46 p4
 Jerome, Arizona Apr 46 p33, Sep 46 p28
 Johnson, Bernard G. Feb 46 p15
 Jones, Harlow Apr 46 p11
 Jun 46 p10, Sep 46 p15
 Jones, Randall Lunt Sep 46 p37
 Joshua Tree natl. mon., Calif. Nov 45 p28
 Apr 46 p46, May 46 p46, Jul 46 p20
 Oct 46 pp23, 40
 Joshua trees, name origin May 46 p30
 Joshua trees, size Feb 46 p31
 Juniper springs, California Jul 46 p13

K

Kangaroo rat Sep 46 p5
 Kanosh, Utah Oct 46 p17
 Keam, Thomas Varker Jul 46 p9
 Kelly, Charles. Author of—
First Emigrant Train Mar 46 p5
When Hawaiians Came to the
Utah Desert May 46 p17
John D. Lee's Lost Gold Mine Aug 46 p9
We Found the Grave
of the Utah Chief Oct 46 p17
 Kelsey, Sam Mar 46 p5
 Kennecott Copper corp. Mar 46 p37
 Key's View, Joshua Tree natl. mon. Jul 46 p20
 Kimball, Heber C. Oct 46 p10
 Kimbrough, Val May 46 p14
 Kinder, Tommy Apr 46 p11
 Kingman, Arizona Jun 46 p15
 Kino, Fr. Eusebio Jan 46 p17
 Kinsley ranch, Arizona Jan 46 p17
 Klauber, L. M. Sep 46 p24
 Korns, Rod May 46 p17
 Koshare Nov 45 p4
 Kraft, J. L. Nov 45 p19

L

La Guardia, Fiorello H. Aug 46 p38
 La Paz (ghost town), Ariz. Sep 46 p11
 Ladd, Burton Jun 46 p4
 Laguna Salada, Lower California Jan 46 p4
 Aug 46 p12
 Lake Mead May 46 p10, Oct 46 p30
 Lake Mead, boating licenses Apr 46 p36
 Langley, Dama. Author of—
Supai Shangri-La Nov 45 p9
Chief of the Navajo Feb 46 p20
Weaving Girl of the Navajo Apr 46 p5
Craftsman or Wage Earner—
The Navajo Must Choose May 46 p4
Hopi Trek to the Land of
"Big Water" Jun 46 p4
Eagle Hunter of the
Hopi Prayer-Makers Aug 46 p20
 Lapidary department Each issue
 Lapidary doping method Oct 46 p33
 Lapidary equipment Nov 45 p40
 Mar 46 p45, Oct 46 p41

Lapidary societies, listed Jul 46 p37
 Las Guijas mountains, Ariz. Jan 46 p17
 Las Vegas, Nevada Jun 46 p10, Sep 46 p15
 Laudermilk, Jerry. Author of—
'The Wood That Sings' Nov 45 p31
There's a Reason for Those
Barbs and Snares Feb 46 p27
How Nature Colored the
Hills at Calico Jul 46 p5
 Lava beds, Arizona Feb 46 p5
 Lava beds, New Mexico Jan 46 p13
 Lee, John D. Nov 45 p9, Aug 46 p9
 Lee's Ferry, Arizona Aug 46 p9
 Lehman caves, Nevada Oct 46 p30
 Leihiy, Geo. W. Nov 45 p13
 Libbey, Donald S. Jul 46 p29
 Liebler, Fr. Harold Baxter Oct 46 p46
 Lightfoot mine, California Feb 46 p23
 Linares, Salvador Ygnacio May 46 p23
 Little, Bill and Olga Oct 46 p46
 Little Chuckawalla mts., Calif. Nov 45 p19
 Llanas arenosas (Arizona) Dec 45 p3
 Lockwood, Frank C. *He Rode the*
Wilderness Trail Mar 46 p28
 Los Alamos, New Mexico May 46 p35
 Los Alamos atomic bomb lab. Sep 46 p37
 Oct 46 p5
 Lost Dutchman mine, Arizona May 46 p31
 Lost Horse wells, California Jul 46 p20
 Lost John D. Lee mine, Ariz. Aug 46 p9
 Lower California,
 Cantu palm oasis Aug 46 p12
 Lower California, Guadalupe canyon Jan 46 p4
 Lower California, Tinajas canyon Jul 46 p13
 Lummis, Charles F. Nov 45 p4
 Lunsford, Nancy. *Craftsman of the*
Cactus Desert Jan 46 p21

M

Magnesium prod., BMI, Nev. Jun 46 p10
 Main, Eddie Mar 46 p14
 Mallas, John Jan 46 p17
The Man Killer Jul 46 p39
Man the Unknown Nov 45 p46
 Marsh, John Mar 46 p5
 Martin, Earl W. Mar 46 p43
 McKenney, Wilson Apr 46 p17, May 46 p23
 McMahan, Kenneth Apr 46 p39
 Mead, Dr. Elwood Sep 46 p11
 Meadow Creek canyon, Ariz. Jun 46 p15
 Mecca Land company Feb 46 p15
 Merriam, Dr. John Campbell Jan 46 p33
 Mesa Verde natl. park, Colo. Oct 46 p46
 Mesquite springs, California Jul 46 p13
 Meteor crater, Ariz. Jul 46 p25, Sep 46 p29
 Meteorite, fall in Philippines Aug 46 p35
 Metropolitan Water District,
 So. California Nov 45 p13
 Mexicali, Lower California Jan 46 p4
 Mexicans, "illegal" Aug 46 p16
 Meyers, R. Holby Feb 46 p15
 Miller, Harry E. Jul 46 p29
 Miller, Walt. *Hard Rock Shorty* Apr 46 p10
 Mineral production, Calif. Nov 45 p28
 Mining, Joshua Tree natl. mon. Nov 45 p28
 Apr 46 p46, May 46 p46
 Mining moratorium, explained Mar 46 p27
 Mining publications Nov 45 p45
 Monlux, Herbert Jun 46 p37
 Montezuma Castle, Arizona Oct 46 p27
 Montgomery, J. M., company Jun 46 p10
 Monument peak, Arizona Nov 45 p13
 Monument valley, Utah Oct 46 p46
 Mopah Junction, California Mar 46 p9
 Morgan, Lewis Henry Nov 45 p4
 Mormon centennial mon. Oct 46 pp10, 32
 Mormon settlements May 46 p17, Oct 46 p17
 Morongo valley, California Dec 45 p13
 Mortero spring, California Jul 46 p13
 Mota, Chester Oct 46 p13
 Mountain Meadows massacre Aug 46 p9
 Mountain Palm springs, Calif. Mar 46 p32
 Muench, Joyce Rockwood Oct 46 p3
 Muench, Joyce Rockwood. *Crater of the*
Setting Sun Feb 46 p5

Muir, John Dec 45 p40
 Murphy, Frank Sep 46 p11

N

National monuments—
 Bandelier, N. M. Nov 45 p4, Aug 46 p3
 Oct 46 p5
 Cedar Breaks, Utah Dec 45 p33
 Joshua Tree, Calif. .. May 46 p46, Jul 46 p20
 Montezuma Castle, Ariz. Oct 46 p27
 Sunset Crater, Ariz. .. Feb 46 p5, Mar 46 p33
 Navajo Indian education Aug 46 p16
 Navajo "Long Walk," 1863 Apr 46 p23
 Needles, California Nov 45 p13
 Nevada, population Apr 46 p37
 Nevills, Mae Oct 46 p46
 Nevills, Norman Sep 46 p38
 Newberry, J. S. Jun 46 p15
 New Mexico, population Apr 46 p37
 New Mexico boys ranch May 46 p35
 Niland, California Nov 45 p19
 Nixon, Roy W. *He Brought African*
Dates to Coachella Feb 46 p15

O

Oatman sisters Jun 46 p15
 Ogden, Peter Skene Oct 46 p10
 Oliver, Harry Dec 45 p7
 May 46 p46, Aug 46 p5
 Oliver, Harry. *Hard Rock Shorty* Nov 45 p32
 Orr, Dan Mar 46 p5, May 46 p17
 Otasha, Mojave Indian Nov 45 p13

P

Painted desert, Arizona Oct 46 p13
 Palen mountains, California Feb 46 p23
 Palm oases, California—
 Boundary Canyon
 (Inkopah Mts.) Jul 46 p13
 Bow Willow Canyon
 (Inkopah Mts.) Feb 46 p9
 Car Creek (Santa Rosa Mts.) Apr 46 p17
 Dos Palmas (Santa Rosa Mts.) .. Nov 45 p24
 Dripping Springs (Santa
 Rosa Mts.) Mar 46 p19
 Hidden Palms
 (Santa Rosa Mts.) Mar 46 p31
 Mountain Palm Springs
 (Inkopah Mts.) Mar 46 p32
 Pushawalla Canyon
 (Indio Hills) Dec 45 p7, Jan 46 p46
 Thousand Palms
 (San Ysidro Mts.) May 46 p23
 Palm oases, Lower California—
 Cantu Oasis
 (Sierra Juarez) Aug 46 p12
 Guadalupe Canyon
 (Sierra Juarez) Jan 46 p4
 Palomar (Bouquet) Canyon
 (Sierra Juarez) Aug 46 p12
 Palm Springs Indian reservation Mar 46 p19
 Palm Springs natl. mon., proposed Jan 46 p46
 Palm Springs-San Jacinto tramway .. Jul 46 p27
 Palo Verde valley, California Sep 46 p11
 Park, Dr. William S. Apr 46 p37, Sep 46 p15
 Parker, Arizona Nov 45 p13
 Parowan, Utah Oct 46 p17
 Pattie, James Jan 46 p4
 Patton, Gen. Geo. S. Nov 45 p19, Feb 46 p23
 Patton War Memorial monument Apr 46 p35
 May 46 p33, Aug 46 p26, Sep 46 p35
 Paul, W. L. Feb 46 p15
 Paxton, June LeMert. *Creed of the*
Desert Each issue
 Peach Springs, Arizona Nov 45 p9
Perilous Adventures in the
Far West Oct 46 p17
 Petersen, Christian, sculpture by Aug 46 p4
 Petrified forest, Arizona Oct 46 p26
 Phillips, Paul Jun 46 p4
 Phoenix, Arizona Dec 45 p3
 Phoenix Dons club May 46 p31

Photographs. Covers by—

Josef Muench, Nov 45; Arthur L. Center, Dec 45; Chuck Abbott, Jan 46, Feb 46, Mar 46, Oct 46; J. K. Yoakum, Apr 46; Hubert A. Lowman, May 46, Jul 46, Sep 46; Harry Vroman, Jun 46; Andre de Dienes, Aug 46.

Photographs. Prize winners by—

Hubert A. Lowman, Mar 46, Aug 46; C. R. Ege, Mar 46; L. B. Dixon, Apr 46, Aug 46; Loyd Cooper, Apr 46; Jerry Anson, May 46; W. Ford Lehman, May 46; Fred H. Ragsdale, Jun 46, Jul 46; Kay Coull, Jun 46; Tad Nichols, Jul 46; Wm. A. Oberlin, Laura Adams Armer, Sep 46; Edmond Read, Wesley L. Kroenung, Oct 46.

Picket Post House, Superior, Ariz. ... May 46 p31
Pickyavit, Joe ... Oct 46 p17
Pinacate beetle (Eleodes) ... Nov 45 p18
Pines-to-Palms highway, Calif. ... Nov 45 p24
Pisgah crater, California ... Jan 46 p9
Pitts, William ... Jun 46 p37

Plantlife—

Arizona, northwestern ... Jun 46 p15
California, Ghost Mountain ... Nov 45 p29
May 46 p21, Jun 46 p23, Jul 46 p23
California, San Ysidro mts. ... May 46 p23
California, Santa Rosa mts. ... Nov 45 p24
Mar 46 p19, Apr 46 p17
Lower Calif., Juarez mts. ... Jul 46 p13
Aug 46 p12

Poems

Porter, Elizabeth Cannon ... Each issue
Porter, Elizabeth Cannon. "This is the Place" ... Oct 46 p10
Poston, Arizona ... Jun 46 p4
Poston, Col. Chas. ... Nov 45 p13
Pottery, restoring ... Apr 46 p21
Powell, Maj. John Wesley ... Aug 46 p9
Pratt, Addison ... May 46 p17
Pratt, Orson ... Oct 46 p10
Praying mantis (Campo-mocha) ... Feb 46 p23, Mar 46 p31
Preston, Tom ... Jun 46 p4
Provot, Etienne ... Oct 46 p10
Pushawalla Canyon palms ... Dec 46 p7
Jan 46 p46
Putney mesa, New Mexico ... Jan 46 p13

Q

Quick, Leland
Amateur Gem Cutter ... Each issue

R

Ragsdale, Mrs. Steve ... Feb 46 p23
Rainbow bridge, publications on ... Apr 46 p47
Rainbow lodge, Arizona ... May 46 p31
Rattlesnake, fangs ... Sep 46 p29
Rattlesnakes and hair ropes ... Jul 46 p2
Aug 46 p8, Sep 46 p30

Reptiles—

Desert tortoise ... Dec 45 p25, Sep 46 p5
Lizards ... Apr 46 p16, Sep 46 pp5, 19
Snakes ... Dec 45 p28, Sep 46 pp5, 24
Reserve Finance corp. ... Jun 46 p10
Rhyolite, California ... Dec 45 p19
Rock freaks, Joshua Tree natl. mon. ... Jul 46 p20
Rockhound emergency kit ... Nov 45 p44
Rocky Point, Mexico ... Aug 46 p26
Rodriguez, Gov. Abelardo ... Aug 46 p12
Rogers, Roy ... Apr 46 p36
Rouse, Herbert M. ... Jul 46 p13
Rupkey, R. H. ... Nov 45 p13
Ryan, Jep and Addie ... Jul 46 p20

S

Saguaro cactus furniture ... Jan 46 p21
Salt Lake City ... May 46 p17, Oct 46 p10
Salton sea, California ... Jan 46 p4
Mar 46 p9, Aug 46 p5
Salton Sea resort, proposed ... Mar 46 p26

Salvador canyon, California ... May 46 p23
San Diego zoo ... Sep 46 p24
San Francisco peaks, Arizona ... Feb 46 p5
San Jacinto tramway ... Jul 46 p27
San Rafael, New Mexico ... Apr 46 p23
San Ysidro mts., Calif. ... May 46 p23
Sanguinetti, E. F. ... Mar 46 p33
Santa Catarina spring, Calif. ... May 46 p23
Santa Fe, New Mexico ... Nov 45 p4
Santa Rosa mts., Calif. ... Nov 45 p24
Mar 46 p19, Apr 46 p17
Schisler, Florence and George ... Jul 46 p38
Scofield dam, Utah ... Jun 46 p30
Scott, Commander A. W. ... Aug 46 p5
Searchlight, Nevada ... May 46 p44, Jun 46 p29
Seed dispersal methods ... Feb 46 p27
Shangri-La (Supai) ... Nov 45 p9
Sharp, Happy ... Aug 46 p8
Shelton, Charles ... May 46 p23

Sheppard bill (Joshua Tree natl. mon.) ... Oct 46 p40
Sherman, Gen. W. T. ... Apr 46 p23
Sherman Institute, Indian school ... Oct 46 p29
Sherrill, Bill ... Aug 46 p12
Shirley, J. E. ... Mar 46 p33
Shoshone, California ... Mar 46 p14
Sierra Club of So. Calif. ... Mar 46 p19
Silver mining, So. Arizona ... Jan 46 p17
Sinyella, Della ... Nov 45 p9
Sitgreaves pass, Arizona ... Jun 46 p15
Six Horses ... Apr 46 p35
Skull valley, Utah ... May 46 p17
Smith, George Albert ... Oct 46 p10
Smith, Harry S. Pest of the Range ... May 46 p13
Smith, Jedediah ... May 46 p17, Oct 46 p10
Snake collecting, nocturnal ... Sep 46 p24
Snow, Erastus ... Oct 46 p10
Snow, Jack ... Sep 46 p20
Soda Springs, Idaho ... Mar 46 p5
Sonora Sketchbook ... Mar 46 p3
South, Marshal. Desert Refuge ... Each issue
South, Tanya. Poems ... Each issue
Southwest ... Jul 46 p38
Southwest Arboretum, Arizona ... May 46 p31
Stanton, Robert B. ... Aug 46 p9
Stauffer Chemical co. ... Jun 46 p10

Stedman, Melissa Branson. Jackrabbit Homesteader ... Dec 45 p13
Stephen, Alexander McGreagor ... Jul 46 p9
Stephens, Don ... Jul 46 p13
Steptoe valley, Utah ... Mar 46 p5
Stott, Ken. Jr. ... Aug 46 p3
Stott, Ken. Jr. On the Prowl for Reptiles ... Sep 46 p24
Stove Pipe wells, Death Valley ... Dec 15 p19
Sumner, Col. Edwin V. ... Apr 46 p23
Sunset crater, Ariz. ... Feb 46 p5, Mar 46 p33
Superstition mts., Arizona ... May 46 p31
Sep 46 p22
Swilling, Jack ... Dec 45 p3
Swing, Phil D. ... Sep 46 p11
Swingle, Dr. Walter T. ... Feb 46 p15

T

Tahbo, Taylor ... Jun 46 p4
Tahoma, Quincy ... Dec 45 p11
Taylor, M. A. ... Jun 46 p10
Tecopa Hot springs, Calif. ... Oct 46 p29
Thaanum, Mike ... Aug 46 p12
This Is The Place state park, Utah ... Sep 46 p18
Thomas, Charles F. Jr. Ab-Ve-Koov-o-Tut, Ancient Home of the Mojave ... Nov 45 p9
Thorne, Shorty ... Jan 46 p17
Thousand Palms, California ... Dec 45 p7
Thousand Palms oasis, Calif. ... May 46 p23
Tinajas canyon, Lower Calif. ... Jul 46 p13
To the Last Man ... Jul 46 p39
Toiyabe national forest ... Apr 46 p37
Tombstone, Arizona ... Oct 46 p27
Tovrea, Ed. A. ... Sep 46 p11
Travertine Pt., Calif. ... Mar 46 p9, May 46 p33
Tucson, Arizona ... Jan 46 p21
Turquoise mines ... Jan 46 p38
Mar 46 p27, Apr 46 p30

U

United Indian Traders association ... May 46 p9
U. S. Date garden, Indio ... Feb 46 p15
U. S. reclamation areas, requirements ... May 46 p34
U. S. reclamation areas—Arizona ... May 46 p31
Aug 46 p25, Sep 46 p33
California ... Jun 46 p27
U. S. Vanadium co. ... Jun 46 p10
Utah, population ... Apr 46 p37

V

Van Dyke, John C. ... Jan 46 p46
Van Valkenburgh, Richard. Author of—
Tom Childs of Ten-Mile Wash ... Dec 45 p3
We Found the Glyphs in the Guijus ... Jan 46 p17
Long Walk of Very Slim Man ... Apr 46 p23
Tom Keam, Friend of the Moqui ... Jul 46 p9
We Found the Hidden Shrine of Old Makai ... Sep 46 p20
Vroman, Harry ... Jul 46 p3
Vroman, Harry. Freak Rocks in Nature's Wonderland ... Jul 46 p20

W

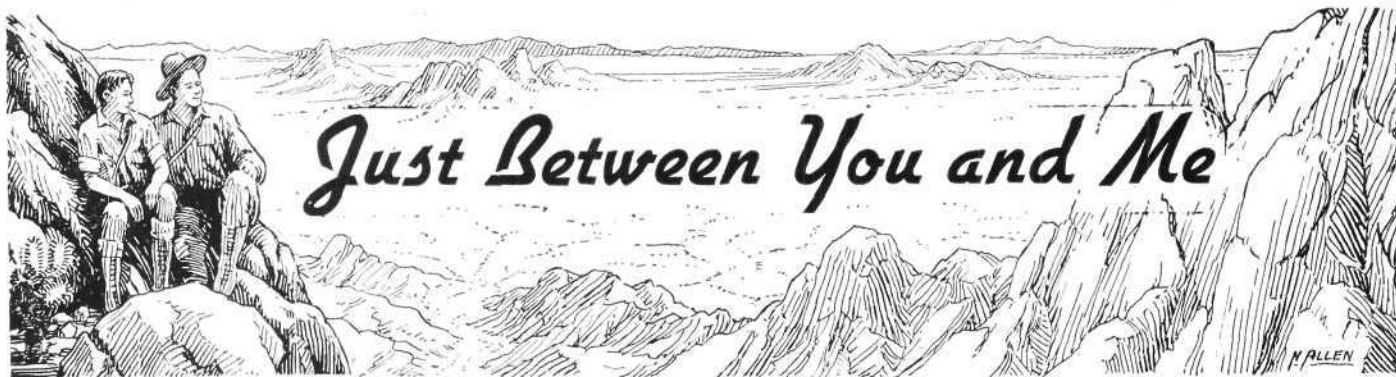
Waco, Leroy ... Jun 46 p39
Wakara, Ute Indian chief ... Oct 46 p17
Waldemar, A. F. ... Nov 45 p13
Walker, Charlie ... Dec 45 p19
Walker, Ute Indian chief ... Oct 46 p17
Wallace, Gov. Lew ... Nov 45 p4
Walpi, Arizona ... Aug 46 p20
Washakie, Shoshone Indian chief ... Oct 46 p10
Way, Lawrence ... May 46 p23
Webb, Mr. and Mrs. John ... Feb 46 p23
Weight, Harold. Stone Flowers in an Ancient Pass ... Jun 46 p15
Weightman, Maj. Richard H. ... Mar 46 p28
West Coast Portrait ... Oct 46 p3
Western Electrochemical co. ... Jun 46 p10
Wetherill, Ben W. ... Sep 46 pp20, 33
Wetherill, Louise Wade ... Nov 45 p35
Wetherill collection ... Jun 46 p38
Wetherill Memorial monument ... Dec 45 p27
May 46 p31, Jul 46 p25, Oct 46 p46
Whipple, Lt. A. W. ... Mar 46 p28
Whipple caves, Nev. ... May 46 p34, Oct 46 p30
White, James L. ... Jul 46 p29
White Sands rocket prov. grounds ... Sep 46 p37
Whitman, Dr. Marcus ... Mar 46 p5
Wickenburg, Arizona ... Nov 45 p31
Wildflower survey ... Mar 46 p30
Apr 46 p28, May 46 p28
Wilhelm, Paul ... May 46 p46
Williams, Ed. F. ... Apr 46 p46, Sep 46 p11
Wolman, Larry D. Taboma of Santa Fe ... Dec 45 p11
Wonderland of Rocks, Calif. ... Jul 46 p20
Wood, Herb ... Jan 46 p21
Woodard, M. L. ... Dec 45 p40
Woodruff, Wilford ... Oct 46 p10
Woods, Betty and Clee ... Oct 46 p46
Woods, Clee. Lost City of the Sky ... Jan 46 p13
Woodson, Weldon. Mark of the Centipede ... Jan 46 p25
Woodward, Arthur ... Aug 46 p12

Y

Yaquitepec crafts ... Dec 45 p23
Jan 46 p29, Aug 46 p17
Yates, John S. ... Feb 46 p15
Yerxa, Cabot ... May 46 p46
Young, Brigham ... Oct 46 pp10, 17
Young, Margaret and Gardner ... May 46 p17

Z

Zeh, Wm. H. ... Aug 46 p25
Zeyouma, Philip ... Jun 46 p4
Zion natl. park, Utah ... Oct 46 p32



By RANDALL HENDERSON

PERHAPS my suggestion is a little late, but if the United Nations organization is still looking for a place to establish its international headquarters, I've found the ideal location.

It is in Utah, in the high plateau region of the southeastern part of the state. The Natural Bridges national monument is in the heart of that little-known wilderness. The nearest post-offices are Blanding and Monticello.

I spent most of the month of August in that general area. I would like to spend the rest of my life there—although they tell me the winter snowfall is somewhat rugged for a desert rat.

But in summertime it is a gorgeous timbered tableland slashed in every direction with deep canyons where sandstone cliffs are daubed with a hundred shades of red and yellow, and black waterstains have converted the vertical walls into fantastic tapestries which no weaver could ever duplicate. Erosion has been at work here for millions of years sculpturing countless castles and temples and domes and turrets.

On the high levels, at 8000 feet and above, are forests of Ponderosa pine and aspen and scrub oak. The lower levels are luxuriant with juniper and piñon. I had never visited this part of the desert Southwest before and my mental picture of southeastern Utah was of a colorful but arid waste, with vegetation only in the canyons. How wrong I was!

Only a few cowmen and Indians know much about this region, and there are hundreds of nameless little tributary canyons where the only white visitors have been range riders looking for strays.

But the ancients knew this country. There is hardly a canyon of any importance that does not have an occasional mud and stone dwelling perched high and dry beneath an overhanging ledge. The occupants have been gone for hundreds of years, but some of the little one-room houses are in a fine state of preservation. On the level floor of the plateaus above are the ruins of aboriginal villages, and now and then one discovers on a conspicuous point of rock the crumbling walls of what may have been a watch-tower or fortress.

Why do I suggest this remote region as the meeting place for the men who are seeking to find a common ground on which all the nations of the world can dwell together in peace?

Because here in this magnificent Utah wilderness, far away from the clatter and confusion of dense population centers, one feels a deep sense of humility. In this perspective, many of the things men and nations quibble and fight over seem quite petty. Man, with all his miracles of science and organization, has never been able to approach the fine harmony of color and form and association which is commonplace in Nature's world.

There is beauty and strength and peace in this Utah landscape. Perhaps from close association with such an environment the men and women who have assumed the leadership in world affairs could gain a broader conception of their re-

sponsibility, and envision the bright sunlit horizon of mutual interest which lies above and beyond mere personal and national self-interest.

* * *

My trip covered parts of Utah, Colorado, New Mexico and Arizona—the Four Corners region. I will have more detailed stories of what I found in that area in future issues of *Desert*. For the present I want to mention just a few of the highlights.

In Monument Valley I met Father Harold Baxter Liebler, founder and director of St. Christopher's Episcopal mission at Bluff, Utah. He was one of my companions on a trip down the San Juan river last summer, a kindly priest with callouses on his hands and a zeal for Christian ideals in his heart. When the padre built his own mission and undertook to bring Christianity to the Navajo Indians, he tackled one of the toughest missionary assignments in North America, but he is of pioneer stuff and slowly but surely he is winning the confidence of the wild tribesmen who follow their herds over that rugged desert.

* * *

I found Harry and Mrs. (Mike) Goulding at the airstrip they have installed on the plain below their Monument Valley trading post, bidding farewell to some distinguished guests who had arrived the previous day by plane. Roland Usher of Cortez, Colorado, now operates an air taxi service into Monument Valley, and the Gouldings are trying to find building materials to add to their cabin accommodations to serve the increasing number of visitors.

Monument valley now has a ghost town—the set erected by Hollywood producers for the filming of *Tombstone*. The movie company built permanent structures in this location, evidently with the intent of using it for future productions. A Navajo watchman protects the plant from souvenir hunters.

I can share the indignation felt by many historians when Hollywood selected the Monument valley location—300 miles from the real Tombstone—for reenacting the famous feud between the Earps and the Clantons, but perhaps something can be said in behalf of this and other ghost towns the movie folks are building on the desert. The original ghost towns of the West are mouldering away—and perhaps future Americans will be grateful to the cinema industry for having kept the species alive through the creation of a new generation of ghost towns.

* * *

At Mexican Hat, Utah, they told me Norman Nevills was up north with an expedition running the rapids in the Snake river this summer. Mexican Hat is in the heart of a wild inhospitable desert—but at the little stone hostelry which is Mexican Hat lodge is a kindly woman with a heart as big as all outdoors. Mae Nevills, Norman's mother, owns the lodge. She is the friend of all who pass that way.

At Kayenta, Arizona, the old Wetherill home is being reconstructed and converted into modern motor court apartments.

There are many who would like to have seen this old land-

mark of the Indian country preserved, but no funds were available for that purpose. Trader Bennett S. Hyde, whose company purchased the Wetherill property, including the trading post, promises better accommodations in the future for the increasing number of motorists who venture over the long road to Kayenta and Monument valley.

The Wetherills, John and Louisa, are still there in spirit. And on a hill overlooking the home where they spent so many useful years are fresh graves where they were buried. Dr. Harold Colton and other friends of the family are raising funds and preparing a permanent memorial to mark the site.

* * *

In Colorado I followed a rocky road out of Hesperus, 4½ miles up La Plata canyon to the workshop of Bill and Olga Little, and spent an hour admiring the colorful mineral collection that fills every nook of their home. For many years Bill was a mine operator in the canyon, and when he retired seven years ago he took up stone cutting as a hobby. You know the instant you meet him that he has found contentment in his new occupation.

Bill Little isn't interested in developing a big commercial business in gems and minerals, but his craftsmanship is so good visitors find their way over that boulder-strewn sideroad and buy all his surplus. His collection includes many lovely cabochons cut from fossil dinosaur bones found in Colorado.

* * *

Southwestern Colorado is becoming quite a rendezvous for the rock and mineral fraternity. One of the most attractive silvercraft and mineral stores in the West is Marvin's Rock shop at Durango. Marvin Ellsbury does the silver work and Robert Ellsbury is the lapidary. They make a fine team and it is a pleasure to visit their beautiful shop.

Of course every collector who goes to that region stops for a chat with friendly Frank Morse whose dream is to create a rock and mineral colony in the lovely mountain valley where he lives at Bayfield. My only regret was that I could not spare the time to spend more hours with Frank and the exquisite specimens which line his roadside shop.

At Pagosa Springs I drove up along the San Juan river to the comfortable log cabin which is the home of Betty and Clee Woods, whose feature stories appear at intervals in *Desert Magazine*. These writers have achieved what nearly every journalist dreams about—a secluded home in the wildwoods, with library and typewriter, far away from alarm clocks, street cars, traffic jams and deadlines.

* * *

The Four Corners area of Colorado and Utah is the home of the pinto bean. Until a few years ago the red hills in that region were covered only with juniper and sagebrush. Then some one found the rainfall was sufficient to grow pintos. And now thousands of acres of brush have been cleared and reclaimed by bean farmers. If they ever develop a drouth-resistant strain of the pinto to the point where it will replace the millions of acres of sagebrush now covering the whole plateau region, the world's food supply will be solved for all time.

Southwestern Colorado in summertime is a charming landscape. Traveling east from Cortez through Mancos, Hesperus, Durango and Pagosa Springs one passes through numerous little pine and cedar-fringed mountain valleys so pretty and peaceful you just want to stay there and camp the rest of the summer.

An earlier generation of Americans evidently shared this view, for there is hardly a canyon in the region which does not contain the ruins of ancient cliff dwellers. Within the boundaries of the Mesa Verde national park the finest of these prehistoric pueblos, many of them in excellent condition, are being restored and protected by Uncle Sam's park rangers. Superintendent Robert Rose told me increasing numbers of motorists are finding their way to this mysterious land of the ancients.

In a week's visit to Mesa Verde, with park rangers as guides, the student learns more about the human species than in a year's studies at school.

* * *

I spent a day in the Hopi villages where the snake and antelope clans were making preparations for the annual snake dance. The rain gods became a little mixed in their timing this year and showers began falling in the Hopi country three weeks before the rain ceremonial was held. The jeep in which I was riding at the time helped pull a couple of stalled motor cars out of the mud just before we reached the Third Mesa. But rain is always welcome to the Hopi, no matter when it comes, nor do previous showers dampen the ardor of the snake priests for their annual prayer festival.

* * *

One of these showers nearly upset my vacation plans. It was my own fault. Motoring along the road from Showlow to Holbrook in Arizona, I came to a detour sign where a new road was being built.

The barricade across the road was partly down, and the new highway looked so inviting I decided to ignore the sign and follow the new paving. Everything went along fine for the first 10 or 12 miles. The new paving was completed, and I was congratulating myself on having avoided that bumpy detour. Then suddenly I had to use my brakes to keep from going over the edge of a little canyon where a new bridge was about to be installed. It was Sunday, and no one was at work, but the construction crew had bulldozed a by-pass down into the wadi and around the bridge.

There was water in the bottom of the wash but I guessed I could make it, so I headed down into the gulch. I got the front wheels up out of the pool on the opposite side—then stalled. The back wheels were mired to the axle. During the three hours before darkness I tried all the tricks I knew for getting a car out of the mud. But the rocks I carried in to put under the wheels after I had jacked the car up just disappeared in the ooze. It was no go.

In the meantime the mosquitoes evidently had passed the word down the line that a sucker was in camp. They brought out the busiest reception committee I have seen—or felt—for years. When it became too dark to work I carried my bedroll to the high bank above and postponed the salvage job until morning.

Then sometime in the night I was awakened by the roar of water. I knew what it meant. A cloudburst flood from somewhere up in the direction of the White mountains had just arrived at my location. It was pitch dark, and there was nothing I could do about it so I lay there trying to recall whether or not my car insurance included loss by flood. And I tried to guess the hiking distance to Holbrook. Once I thought I heard the car colliding with boulders as it rolled end over end down the stream.

The mosquitos were having a feast, so finally I covered up my head, partly to deaden the unpleasant noise the flood torrent was making and partly to protect my hide against those villainous insects.

I didn't waken until daylight. I lay there a few moments dreading the ordeal of looking over the bank into the wash to see if I still had an automobile. But there was nothing else to do, so I crawled over to the edge of the cliff for a look.

The car was in the same hole where I left it. The floor was covered with a slimy coat of red mud, but otherwise no damage had been done. That was a grand and glorious feeling—and I didn't mind the 5-mile walk back to a construction camp for help. The foreman was not as grumpy as I expected—and deserved. Said he had to pull dumb tourists out of the wash nearly every day.

You may do as you please, but as far as I am concerned I am going to take the detours after this.

Valerie Jean's DELUXE GIFT

Containing the favorite Valerie Jean date delicacies. The new roasted almond DATE CAKE, DATE BUTTER BALLS, DATE ROLLS, HAND SELECTED DATES, and our new DESERT CANDY made of dates, roasted almonds, pineapple and raisins. Carefully packed. It makes a colorful and tasty gift.

DELIVERED IN THE U.S.A.

1 lb.	. . . . .	\$1.30
3 lbs.	. . . . .	3.50
5 lbs.	. . . . .	5.70



VALERIE JEAN'S

Desert Candy

This candy contains dates, roasted almonds, pineapple, raisins and honey. A date delicacy supreme in the history of Valerie Jean's. It is uncooked and makes a grand food for the children and a wonderful gift for any occasion.

DELIVERED IN THE U.S.A.

1 lb.	. . . . .	\$1.30
3 lbs.	. . . . .	3.50
5 lbs.	. . . . .	5.70

DELIVERY GUARANTEED

**VALERIE JEAN
DATE SHOP**

Thermal, California

On U. S. Hwy. 99, 11 miles south of Indio, Calif.
Mailing address Thermal, California